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THE VOICE OF THE MOLYBDENUM INDUSTRY

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STUDY NO. 10-2225

SODIUM MOLYBDATE DIHYDRATE: A 90-DAY  
ORAL DIETARY ADMINISTRATION STUDY IN RATS (GLP)  
FINAL REPORT

OCTOBER 2011

**Prepared by Huntingdon Life Sciences, USA for:**

International Molybdenum Association (IMO A)

4 Heathfield Terrace, Chiswick,

London, W4 4JE, UK

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STUDY NO. 10-2225  
SPONSOR STUDY NO. IMO002

SODIUM MOLYBDATE DIHYDRATE: A 90-DAY  
ORAL DIETARY ADMINISTRATION STUDY IN RATS (GLP)

**Final Report**

Submitted to: International Molybdenum Association  
(IMO)  
4 Heathfield Terrace  
London W4 4JE  
United Kingdom

Attn: Jay Murray, PhD, DABT  
Murray & Associates  
5529 Perugia Circle  
San Jose, California 95138

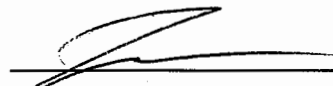
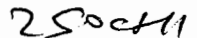
Date: 25 October 2011

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**STATEMENT OF COMPLIANCE**

This study was conducted in compliance with the Organization for Economic Cooperation and Development (OECD) Principles of Good Laboratory Practices ENV/MC/CHEM/(98)17; the Japan Ministry of Agriculture, Forestry and Fisheries (JMAFF) Good Laboratory Practice Regulations (Notification No. 3850); the EC Commission Directive 2004/10/EC of 11 February 2004 (Official Journal No L 50/44) and the EPA Good Laboratory Practices as set forth in 40 CFR Part 792 (TSCA) with the following exceptions:

The dose formulation analysis and bioanalytical analysis of blood and tissue samples were not conducted in compliance with the above referenced GLPs because the conducting lab (Michigan State University) is non-GLP. However, the laboratory is fully certified under the American Association of Veterinary Laboratory Diagnosticians (AAVLD) and has in place a well founded QC program to assure the accuracy of its reported results.

  
\_\_\_\_\_  
Gary M. Hoffman, BA, DABT  
Study Director  
\_\_\_\_\_  
Date

**SIGNATURE PAGE****SCIENTIST**

The following Scientist was responsible for the overall conduct of this study. Departmental supervisory personnel are listed on the personnel page of this report (Appendix R).



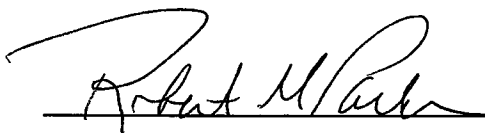
Gary M. Hoffman, BA, DABT  
Study Director

25 Oct 11

Date

**SCIENTIFIC REVIEW**

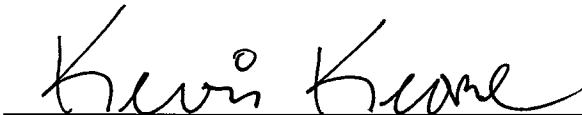
The following Scientists have reviewed and approved this report:



Robert M. Parker, PhD, DABT  
Director, Developmental and Reproductive Toxicology

25 OCT 2011

Date



Kevin Keane, DVM, PhD  
Director of Pathology

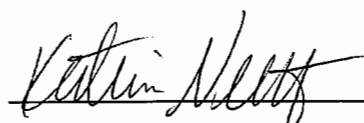
25 OCT 2011

Date

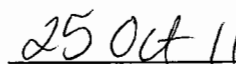
**QUALITY ASSURANCE STATEMENT**

Listed below are the dates that this study was inspected by the Quality Assurance Unit of Huntingdon Life Sciences, East Millstone, New Jersey, and the dates that findings were reported to the Study Director and Management. This report reflects the raw data as far as can be reasonably established.

<b>Type of Inspection</b>	<b>Date(s) of Inspection</b>	<b>Reported to Study Director and Management</b>
GLP Protocol Inspection	7 Oct 10	8 Oct 10
Diet Preparation, Administration & Protocol Amendment 1	25-27 Oct 10	27 Oct 10
Blood Molybdenum Collection & Processing	17 Nov 10	17 Nov 10
Vaginal Smearing & Training Records	16 Dec 10	16 Dec 10
Diet Preparation, Administration & Pharmacy Data Review	10-11, 18 & 25 Jan 11	25 Jan 11
Necropsy, Sperm Assessment & Equipment Records	25 Jan 11	25 Jan 11
Protocol Amendment 2	27 Jan 11	27 Jan 11
Draft Final Report Text, Tables, Appendices, Study Data & Protocol Amendment 3	28-29 Apr, 2-6 May 11	10 May 11
Draft Final Report Results & Discussion, Summary, Conclusion, Pathology Report, Estrus & Study Data	8-9, 13 Jun 11	13 Jun 11
Statistical Evaluations of Feed Conversion Efficiency	13 Jun 11	13 Jun 11
Protocol Amendment 4	16 Jun 11	16 Jun 11
Protocol Amendment 5	17 Oct 11	17 Oct 11
Final Pathology Revised Report and Data	19 Oct 11	19 Oct 11
Revised Results and Discussion and Final Report Review	11 - 13, 17, 19 - 21 Oct 11	21 Oct 11
Protocol Amendment 6	24 Oct 11	24 Oct 11



Katrina Neetz, M.S., RQAP-GLP  
Quality Assurance Auditor



Date

**LIST OF ABBREVIATIONS**

<b>Abbreviation</b>	<b>Term</b>
~	approximately
M	Male(s)
F	Female(s)
g	grams
ng	nanograms
Mo	molybdenum
mL	milliliters
kg	kilogram
bw	body weight
ppm	parts per million
conc	concentration
mg	milligrams
mcg or $\mu$ g	micrograms
PT	prothrombin time
APTT	activated partial thromboplastin time
NOAEL	no observed adverse effect level
AAVLDAC	American Association of Veterinary Laboratory Diagnosticians Accreditation Committee

**Sodium Molybdate Dihydrate: A 90-Day  
Oral Dietary Administration Study in Rats (GLP)**

**SUMMARY**

This study was performed in accordance with OECD Guideline 408 modified to include additional parameters, estrous cycles and sperm analyses, from OECD Guideline 416.

Sprague-Dawley CD<sup>®</sup> rats (20 animals/sex/group in Groups 1 and 4 and 10 animals/sex/group in Groups 2 and 3) were fed sodium molybdate dihydrate in the diet for 91 or 92 consecutive days. The target dose for Groups 1, 2, 3 and 4 were 0, 5, 17 and 60 mg Mo/kg bw/day. At the end of the treatment period, up to 10 animals/sex/group were euthanized and necropsied. After an up to 60-day recovery period, the remaining 10 animals/sex/group in Groups 1 and 4 were euthanized and necropsied. Animals were bled for serum concentrations of molybdenum during Weeks 4 and 12 during the treatment period and twice during the first week of the recovery period. Parameters evaluated during the study were: viability, clinical observations, ophthalmology, body weights, food consumption, vaginal cytology and estrous cycling, semen quality, clinical pathology (termination of the treatment period), organ weights, macroscopic observations and microscopic pathology.

There were no test substance-related unscheduled deaths or sacrifices.

The dietary administration of 5, 17 or 60 mg/kg bw/day of Mo (molybdenum in sodium molybdate dihydrate) to rats for at least 90 days resulted in statistically significant decreases in body weight and bodyweight gain reduction in the 60 mg Mo/kg bw/day animals compared to controls. The effect was more severe in males. In males, this may have been due in part to slightly reduced food intake and partly to reduced food conversion efficiency. Light microscopy evaluation of control and 60 mg Mo/kg bw/day animals identified test substance-related findings in the kidneys (slight diffuse hyperplasia of the proximal tubules) of 60 mg Mo/kg bw/day females. No adverse effects were observed on the gonads, estrous cycles or sperm parameters. All tissues were normal in the recovery animals at termination.

In conclusion, a NOAEL was determined to be 17 mg Mo/kg bw/day based on the effects on reduced body weight gains in males and females, and kidney changes in two females seen at 60 mg Mo/kg bw/day. The NOAEL for testicular (or gonadal) and sperm and estrous cycle effects is > 60mg Mo/kg bw/day.

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## 1. INTRODUCTION

The purpose of this study was to assess the toxicity of sodium molybdate dihydrate ( $\text{Na}_2\text{MoO}_4 \cdot 2\text{H}_2\text{O}$ ) when administered orally (adjusted dietary administration) to rats for up to 92 days followed by a recovery period of up to 60 days for the control and high dose groups. The study was performed in accordance with guideline OECD 408 modified to include additional parameters, estrous cycles and sperm analyses, from guideline OECD 416. Sodium molybdate dihydrate is used in this study as a source of the molybdate ion  $[\text{MoO}_4]^{2-}$  and is a model compound representative of soluble molybdenum (VI) compounds. Molybdate is the form in which molybdenum is taken up in biology and molybdate is present in blood. Sodium molybdate is used, for example, as a micronutrient in the manufacture of fertilizer and as a corrosion inhibitor.

## 2. MATERIALS AND METHODS

### 2.1. STUDY MANAGEMENT

#### 2.1.1. SPONSOR

International Molybdenum Association (IMOA)  
4 Heathfield Terrace  
London W4 4JE  
United Kingdom

#### 2.1.2. SPONSOR REPRESENTATIVE

Jay Murray, PhD, DABT  
Murray & Associates  
5529 Perugia Circle  
San Jose, California 95138

#### 2.1.3. TESTING FACILITY

Huntingdon Life Sciences  
P.O. Box 2360  
100 Mettlers Road  
East Millstone, New Jersey 08875-2360

#### 2.1.4. STUDY DIRECTOR

Gary M. Hoffman, BA, DABT

**2.2. STUDY DATES**

**2.2.1. STUDY INITIATION**

14 October 2010 (Date Study Director signed the Protocol)

**2.2.2. DATE OF ANIMAL RECEIPT**

7 October 2010 (OECD – Experimental Start Date)

**2.2.3. DOSING INITIATION**

26 October 2010 (EPA – Experimental Start Date)

**2.2.4. DOSING TERMINATION**

Males: 24 January 2011  
Females: 25 January 2011

**2.2.5. TERMINAL SACRIFICE**

Males: 25 January 2011  
Females: 26 January 2011

**2.2.6. RECOVERY SACRIFICE**

25 March 2011

**2.2.7. EXPERIMENTAL COMPLETION DATE**

19 October 2011 (Date of last data collection)

**2.2.8. STUDY COMPLETION**

25 October 2011 (Date Final Report is signed by the Study Director)

### 2.3. EXPERIMENTAL OUTLINE

The test substance was administered orally, by dietary administration, to rats for up to 92 days followed by a recovery period of up to 60 days for some of the rats.

Group	Target Dose (mg Mo/kg bw/day)	Dietary conc. of Mo (ppm) <sup>a</sup>	Dietary conc. of sodium molybdate dihydrate (ppm) <sup>a,b</sup>	Number of Animals					
				Total on Study		Terminal Necropsy		Recovery Necropsy	
				M	F	M	F	M	F
1	0	0	0	20	20	10	10	10	10
2	5	60	150	10	10	10	10	0	0
3	17	200	500	10	10	10	10	0	0
4	60	700	1750	20	20	10	10	10	10

<sup>a</sup>These were estimated initial dietary concentrations but were recalculated based on actual pretest body weight and feed consumption data and were re-adjusted during the study. The actual recalculated results are in the raw data.

<sup>b</sup>The molecular weight ratio (2.5) of the test substance was used to calculate test substance concentrations. Molecular weight of Na<sub>2</sub>MoO<sub>4</sub>·2H<sub>2</sub>O divided by the atomic mass of Mo is 2.5 (241.95/95.94 = 2.5).

The first day of dosing was defined as Day 1 of the study.

The normal control diets contained around 900 ng/g (0.9 ppm) molybdenum.

### 2.4. JUSTIFICATIONS

#### 2.4.1. ROUTE, DURATION AND FREQUENCY OF ADMINISTRATION

Because humans are exposed orally to molybdenum in the normal diet, the test substance was administered orally in this study. The duration of administration was in accordance with OECD test guidelines.

#### 2.4.2. TEST ANIMAL SELECTION

The rat is an animal model commonly utilized in toxicity studies and was used for this repeat-dose 90-day study as recommended per OECD test guidelines. In addition, a historical data base is available for comparative evaluation.

#### 2.4.3. NUMBER OF ANIMALS

The number of animals in this study was considered the minimum necessary for statistical and scientific reasons as per OECD test

guidelines. Historical control data indicates that clinical pathology and organ weight data and microscopic examination of tissues vary among individual animals. The number of animals (10/sex/group) was considered the minimum number that would account for the expected variability among animals. Three test substance-treated groups receiving low, middle and high doses and a negative control group were considered the minimum number of groups necessary to evaluate the toxicity of the test substance. However, this study also evaluated recovery after up to 60 days, from treatment effects during the at least 90 days of dosing and required 10/sex/group in Groups 1 and 4 for that specific evaluation.

#### 2.4.4. DOSE SELECTION

There is limited published information on the toxicity of molybdenum in experimental animals. In a study by Pandey and Singh (Pandey and Singh, 2002), 50 mg/kg bw sodium molybdate was possibly toxic to the testes and bodyweight when given as an oral bolus dose (probably gavage), 5 days/week for 60 days. In the same study, 30 mg/kg was a LOAEL and 10 mg/kg bw was possibly a NOAEL or might be a LOAEL. In a study by Cox *et al.* (1960), Mo was given as sodium molybdate in two synthetic diets at 500 ppm (about 50 mg/kg bw) for 5-8 weeks. This proved to be toxic with diarrhea and decreased weight gain, and with high liver molybdenum levels and no effect on liver copper stores. Further, all the rats died during the first week of a study where they were given 400 mg Mo/kg bw/day in the diet (Niелands *et al.*, 1948). However, in the range-finding HLS Study No. 10-2205 (Hoffman, 2011), there were no remarkable treatment effects, including no effects on the testes, from oral gavage or dietary dosing at 4 and 20 mg Mo/kg bw/day for 28 days (equivalent to 10 and 50 mg/kg bw/day of sodium molybdate dihydrate).

Therefore, for this study, it was estimated that the low dose (5 mg Mo/kg bw/day) should have been without effect based on the results of the range-finding HLS Study No. 10-2205 (Hoffman, 2011) and previous published studies. The selection for the middle dose (17 mg Mo/kg bw/day) was based on the fact that it is logarithmically between the high and low dose. It was expected that some effects at the high dose (60 mg Mo/kg bw/day) would be

seen, based on other published studies. In addition, palatability was not expected to be a problem since Arrington et. al. (1965) did not see a decrease in food consumption in rats given up to 80 mg Mo/kg bw/day in the diet (as sodium molybdate dihydrate) for 6 weeks. Also, 60 mg Mo/kg bw/day represents a dose level which is about 20,000 times higher than typical human dietary intake (205 mcg Mo/day or 3 mcg Mo/kg bw/day) and it was estimated that much higher doses than 60 mg Mo/kg bw/day would result in undesired mortality.

## **2.5. TEST SUBSTANCE**

Sodium Molybdate Dihydrate ( $\text{Na}_2\text{MoO}_4 \cdot 2\text{H}_2\text{O}$ )

Mol Wt. of  $\text{Na}_2\text{MoO}_4 \cdot 2\text{H}_2\text{O}$  divided by atomic mass of Mo ( $241.95/95.94 = 2.5$ ) so 50 mg of sodium molybdate dihydrate is equivalent to 20 mg of molybdenum (Mo).

### **2.5.1. CAS NUMBER**

10102-40-6

### **2.5.2. INTENDED USE**

Sodium molybdate is used in this study as a source of the molybdate ion  $[\text{MoO}_4]^{2-}$  and is a model compound representative of soluble molybdenum (VI) compounds. Sodium molybdate is used as a micronutrient in the manufacture of fertilizer, and as a corrosion inhibitor.

### **2.5.3. MANUFACTURER**

Climax Molybdenum Company  
P.O. Box 220  
2598 Highway 61 South  
Fort Madison, Iowa 52627

### **2.5.4. SUPPLIER**

Climax Molybdenum Marketing Corporation  
333 North Central Avenue  
Phoenix, Arizona, 85004



**2.5.5. LOT NUMBER**

43006L

**2.5.6. ANALYTICAL CONCENTRATION**

39.5 ± 0.8% Mo (theoretical content is 39.65, so material is >99% pure)

**2.5.7. DESCRIPTION**

White powder

**2.5.8. DATE RECEIVED**

17 May 2010

**2.5.9. EXPIRATION DATE**

4 May 2011

**2.5.10. ANALYSIS**

Documentation of the identity, strength, purity, composition, stability, and method of synthesis, fabrication, and/or derivation of the test substance and the maintenance of these records were the responsibility of the Sponsor. Analyses were also performed by Michigan State University as described in [Section 2.13](#) below.

**2.5.11. STORAGE**

Room temperature

**2.5.12. ARCHIVAL SAMPLE**

A sample of test substance is stored in the Archives of the Testing Facility under conditions specified for test substance storage.

**2.5.13. DISPOSITION**

The unused portions of the test substance will be maintained by the Testing Facility for 6 months after issuance of the final report and then will be discarded. Empty test substance containers will be discarded by the Testing Facility at time of report finalization.

**2.6. CONTROL VEHICLE**

Certified Rodent Diet, No. 2016C (meal)

**2.6.1. SUPPLIER**

Harlan Teklad  
Madison, Wisconsin

**2.6.2. LOT NUMBERS**

081010 MB  
081010 MA

**2.6.3. ANALYSIS**

Analysis of each feed lot used during this study was performed by the manufacturer. Results were provided to the Testing Facility and are maintained on file at the Testing Facility. There were no known contaminants in the feed that were expected to interfere with the results of this study. In addition, the feed was also analysed for molybdenum and other minerals as described in [Section 2.13](#) below.

**2.6.4. STORAGE**

Room temperature

**2.6.5. DISPOSITION**

The unused portion of the control substance was retained at the Testing Facility for possible use on future studies. Any empty control substance containers were discarded.

**2.6.6. ARCHIVAL SAMPLE**

A sample of control substance is stored in the Archives of the Testing Facility under conditions specified for control substance storage.

## 2.7. TEST ANIMALS

### 2.7.1. SPECIES

Albino Rats (Outbred) VAF/Plus<sup>®</sup>  
CD<sup>®</sup> (Sprague-Dawley derived) [CrI:CD<sup>®</sup> (SD) IGS BR]

### 2.7.2. SUPPLIER

Charles River Laboratories  
Kingston, New York 12484

### 2.7.3. NUMBER OF ANIMALS

Received:  
128 total (64 males, 64 females)

Placed on test:  
120 total (60 males, 60 females)

Females were nulliparous and non-pregnant.

### 2.7.4. AGE AT RECEIPT

Approximately 7 weeks

### 2.7.5. AGE AT INITIATION OF DOSING

Approximately 9 weeks

### 2.7.6. WEIGHT AT INITIATION OF DOSING (GRAMS)

	<b>Mean</b>	<b>Range</b>
Male:	338.4	309.8 – 377.6
Female:	229.6	187.9 – 263.5

### 2.7.7. STABILIZATION PERIOD

Animals were stabilized for approximately 2 ½ weeks. All animals were examined during the stabilization period to confirm suitability for study.

## 2.8. ANIMAL ASSIGNMENT

More animals than required for the study were purchased and stabilized. Animals considered unsuitable for the study on the basis of ophthalmoscopic examinations were eliminated prior to random selection for group assignment (except for Animal No. 3001). Animals considered suitable for study were distributed into 2 groups of 20 animals per sex (Groups 1 and 4) and 2 groups of 10 animals per sex (Groups 2 and 3) by a computerized random sort program so that body weight means for each group were comparable. Individual weights of animals placed on test were within  $\pm 20\%$  of the mean weight for each sex. Substitutions were made after initial group assignment, prior to treatment initiation, based on body weight loss. Information as to the disposition of all animals not utilized in the study is maintained in the study file. The assigned animal numbers for each test group were as follows:

Group	Sex	Terminal Phase	Recovery Phase
1	Males	1001 – 1007, 1021, 1009 – 1010	1011 – 1020
	Females	1501 – 1510	1511 – 1520
2	Males	2001 – 2010	-
	Females	2501 – 2510	-
3	Males	3001 – 3003, 3005 – 3011	-
	Females	3501 – 3510	-
4	Males	4001 – 4007, 4009 – 4010, 4021	4011 – 4020
	Females	4501 – 4510	4511 - 4520

## 2.9. ANIMAL IDENTIFICATION

Each animal was assigned a temporary identification number (tail marked with indelible ink) upon receipt. After selection for study, each rat was identified with a tail tattoo bearing its assigned animal number. The assigned animal number plus the study number comprised the unique animal number for each animal. In addition, each cage was provided with a cage card which was color-coded for dose level identification and contained study number and animal number information.

## 2.10. VETERINARY CARE

Animals were monitored by the technical staff for any conditions requiring possible veterinary care and treated as necessary.

## **2.11. HUSBANDRY**

### **2.11.1. FACILITIES MANAGEMENT/ANIMAL HUSBANDRY**

Currently acceptable practices of good animal husbandry were followed e.g., *Guide for the Care and Use of Laboratory Animals*; National Academy Press, 1996. Huntingdon Life Sciences, East Millstone, New Jersey is fully accredited by the Association for Assessment and Accreditation of Laboratory Animal Care International (AAALAC).

### **2.11.2. HOUSING**

Animals were individually housed in elevated, stainless steel, wire mesh cages. An enrichment device (e.g., a Nylabone<sup>®</sup>) was provided in each animal's cage at all times. Previous analysis of Nylabone in the rangefinder study HLS Study No. 10-2205 ([Hoffman, 2011](#)) showed that it contained no significant amount of molybdenum (<1ng Mo/g).

### **2.11.3. FEED**

Certified Rodent Diet, No. 2016C (meal) (Harlan Teklad, Madison, Wisconsin) was available without restriction. Fresh feed was presented weekly during the study except during Week 1 when fresh feed was presented 3 times.

### **2.11.4. FEED ANALYSIS**

Analysis of each feed lot used during this study was performed by the manufacturer. Results were provided to the Testing Facility and are maintained on file at the Testing Facility and presented in Appendix R of this report. There were no known contaminants in the feed that were expected to interfere with the results of this study. The feed was also analysed for molybdenum and other minerals as described in [Section 2.13](#) below.

### **2.11.5. WATER**

Water (New Jersey-American Water Company, Cherry Hill, New Jersey) was available without restriction via an automated watering system.

### **2.11.6. WATER ANALYSIS**

Water analyses are conducted by New Jersey-American Water Company, Cherry Hill, New Jersey (Raritan-Millstone Plant) to ensure that water meets standards specified under the EPA Federal Safe Drinking Water Act Regulations (40 CFR Part 141). In addition, water samples are collected biannually from representative rooms in the Testing Facility; chemical and microbiological water analyses are conducted on these samples by a subcontract laboratory. Results of all water analyses are maintained on file at the Testing Facility. There were no known contaminants in the water which were expected to interfere with the results of this study.

### **2.11.7. ENVIRONMENTAL CONDITIONS**

#### **Light/Dark Cycle**

A twelve hour light/dark cycle (6 AM to 6 PM) controlled via an automatic timer was provided.

#### **Temperature**

Temperature was monitored in accordance with Testing Facility SOPs and maintained within the specified range to the maximum extent possible.

Desired Range: 18 to 26°C

Daily Average Range: 19 to 23°C

#### **Relative Humidity**

Relative humidity was monitored in accordance with Testing Facility SOPs and maintained within the specified range to the maximum extent possible.

Desired Range: 30 to 70%

Daily Average Range: 34 to 49%

## **2.12. TEST SUBSTANCE PREPARATION**

Appropriate amounts of the test substance were mixed with the vehicle to achieve the desired concentrations. Fresh dose formulations were prepared once weekly for the first 4 weeks of the study and then every other week for the rest of the treatment period to approximate as closely as possible the target dose levels in mg/kg bodyweight. Dose formulations were prepared as averaged mixtures for the males and females (based on body weight and feed consumption data from the preceding interval and the molecular weight ratio of the test substance) in each group and stored at room temperature in tightly sealed bags when not in use. The Sponsor has confirmed in HLS Study No. 10-2205 ([Hoffman, 2011](#)) that dose formulations are stable for at least 5 weeks when prepared and stored at room temperature.

Unused dose formulations were discarded by the Testing Facility.

## **2.13. ANALYSIS OF DOSE FORMULATIONS**

Analyses to determine homogeneity and concentration of the test substance with carriers under the conditions of this study was performed. All analytical work was conducted at Michigan State University using a validated method for molybdenum, copper, zinc and manganese. The laboratory is not GLP compliant; however, the laboratory is fully certified by the American Association of Veterinary Laboratory Diagnosticians (AAVLD) and has in place a well founded QC program to assure the accuracy of its reported results. For this study, the laboratory utilized a state-of-the-art inductively coupled plasma mass spectrometer. The results of the dose formulation analysis results are presented in [Appendix A](#).

### **2.13.1. HOMOGENEITY AND CONFIRMATION ANALYSIS**

Samples of diet formulations (approximately 50 g in duplicate from the top, middle and bottom from the 1<sup>st</sup> week's preparation, and approximately 50 g in duplicate from the middle from each subsequent preparation) for Groups 1 to 4 were collected from each prepared batch after preparation. Dose formulation samples were stored at room temperature in tightly sealed bags until shipped for analysis and were stored under the same conditions at the analytical laboratory. The samples (1 of each duplicate

sample) for the 1<sup>st</sup> week of dosing were shipped the next day. Samples (1 of each duplicate sample) of diet formulations collected from each prepared batch after the first week of dosing were shipped monthly. The samples were shipped to Justin Zyskowski at the following address:

DCPAH at Michigan State University  
4125 Beaumont Drive  
Lansing, Michigan 48910-8104

Due to questionable analytical results, the back-up samples from the Week 1 formulations were blind labeled and shipped for analysis. These confirmed the original results (see [Section 3.1](#)).

The remaining samples were stored at room temperature at the Testing Facility and will be maintained by the Testing Facility for 6 months after issuance of the final report and then will be discarded.

#### **2.13.2. STABILITY**

Stability for at least 5 weeks of storage was determined for samples generated in HLS Study No. 10-2205 ([Hoffman, 2011](#)).

#### **2.14. TEST AND CONTROL SUBSTANCE ADMINISTRATION**

The test and control substances were administered by *ad libitum* feed presentation.

#### **2.15. FREQUENCY AND DURATION OF ADMINISTRATION**

The test and control substances were administered continuously (Groups 1-4) for 91 (males) or 92 (females) days. Test and control substance administration continued through the day prior to terminal necropsy. Recovery groups were kept on normal untreated diet for 59 days (females) and 60 days (males) prior to termination.



## **2.16. EXPERIMENTAL EVALUATIONS**

### **2.16.1. VIABILITY CHECKS AND CLINICAL OBSERVATIONS (CAGE-SIDE)**

Animals were observed in their cages twice daily for mortality and general condition. Animals in extremely poor health or in a possible moribund condition were identified for further monitoring and possible euthanasia. During the treatment period, all animals were observed for signs of toxic or pharmacologic effects at least twice daily. These observations were made concurrently with the viability checks.

### **2.16.2. PHYSICAL EXAMINATIONS**

Animals were removed from their cages and examined once pretest and weekly during the study period (except examinations were performed twice during the first week of the recovery period).

Examinations included observations of skin and fur, eyes and mucous membranes, respiratory and circulatory effects, autonomic effects such as salivation, central nervous system effects, including tremors and convulsions, changes in the level of motor activity, gait and posture, reactivity to handling or sensory stimuli, grip strength, and stereotypies or bizarre behavior (e.g., self-mutilation, walking backwards) according to the Testing Facility SOPs describing detailed physical and behavioral examination.

Grip strength was measured by allowing the animal to grip an inverted cage and then applying a gentle, horizontal pull on the tail, slowly drawing the animal backward. The grip strength was determined in terms of gripping resistance of the animal to this action.

### **2.16.3. OPHTHALMOSCOPIC EXAMINATION**

All animals were examined pretest and at termination of the treatment period. Lids, lacrimal apparatus and conjunctiva were examined visually. The cornea, anterior chamber, lens, iris, vitreous humor, retina and optic disc were examined by indirect ophthalmoscopy.

Mydriacyl 1% was used to induce mydriasis.

#### **2.16.4. BODY WEIGHT**

Animals were removed from their cages and weighed twice pretest, weekly during the study and terminally (after fasting). Terminal, fasted body weights were obtained just prior to necropsy.

#### **2.16.5. FOOD CONSUMPTION**

Feed was available without restriction 7 days/week. Animals were presented with full feeders of known weight. After up to 6 days, feeders were reweighed and the resulting weight was subtracted from the full feeder weight to obtain the grams consumed per animal over the up to 6-day period. Food consumption was measured (weighed) during the week prior to treatment initiation (over a 6-day period), at Days 2 and 4 and 7 in the first week of dosing. The amount of food consumed over a 6-day period was used to determine feed concentration calculations for Week 2 and weekly (over a 6-day period) for the first 4 weeks and every other week during the rest of the study.

##### **Calculation**

food consumption (g/day) = grams of food consumed ÷ up to 6 days

#### **2.16.6. FOOD CONVERSION EFFICIENCY**

Calculated from weekly body weight and food consumption data:

##### **Calculation**

Food Conversion Efficiency =  $\frac{\text{body weight gain (g)}}{\text{food consumption (g/interval)}} \times 100$

### **2.16.7. TEST SUBSTANCE INTAKE**

Calculated from food consumption data and based on nominal dietary concentrations:

#### **Calculation**

Test Substance Intake (mg Mo/kg bw/day) =

Food consumed (g/kg bw/day) x concentration of molybdenum in diet (mgMo/g diet)

The current body weight was used in the calculation.

### **2.17. VAGINAL CYTOLOGY/ESTROUS CYCLING**

Daily vaginal smears were taken from each female at approximately the same time each day and the stage of estrous determined, commencing after completing 6 weeks of dosing for 3 weeks (Weeks 7-9).

At the end of the study, the overall pattern of each female was characterized as regularly cycling (having recurring 4 to 5 day cycles), irregularly cycling (having cycles with a period of diestrus longer than 3 days or a period of cornification longer than 2 days), or not cycling (having prolonged periods of either vaginal cornification or leukocytic smears).

An animal was considered to be "not cycling" if she showed three or more consecutive days of estrus or five or more consecutive days of diestrus.

Cycle length may be defined as the number of days from one estrus to the next estrus. Incomplete cycles are not counted in calculating mean cycle length. Mean cycle length for each animal is calculated first, and the mean of these means is then calculated to represent the group.

### **2.18. CLINICAL PATHOLOGY**

Blood obtained via the jugular vein (unanesthetized or when necessary lightly anesthetized with isoflurane) or the orbital sinus (lightly anesthetized with isoflurane) was used to analyze hematology, coagulation and clinical chemistry parameters for 10 animals/sex/group at termination of the treatment period. Animals were fasted overnight prior to blood collection.

### 2.18.1. HEMATOLOGY

Blood for hematology studies was collected (approximately 0.25 mL) into tubes containing K<sub>2</sub>EDTA anticoagulant.

Blood samples were analyzed as follows:

#### **ADVIA 120 Hematology Analyzer, Bayer Corporation**

Hemoglobin concentration

Hematocrit

Erythrocyte count

Platelet count

Mean corpuscular volume

Mean corpuscular hemoglobin

Mean corpuscular hemoglobin concentration

Red cell distribution width

Total leukocyte count

Reticulocyte count

Differential leukocyte count<sup>1</sup>

### 2.18.2. COAGULATION

Blood for coagulation studies was collected (approximately 1.0 mL) into tubes containing sodium citrate anticoagulant.

Blood samples were analyzed as follows:

#### **Mechanical clot detection system, STA Compact<sup>®</sup>, Diagnostica Stago Products**

Prothrombin time

Activated partial thromboplastin time

### 2.18.3. CLINICAL CHEMISTRY

Blood for clinical chemistry studies was collected (approximately 1.0 mL) into tubes with no anticoagulant, allowed to clot, and centrifuged to obtain serum.

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<sup>1</sup>When questionable values were obtained, manual differential leukocyte counts ([Henry, 1991](#)) and absolute value calculations were performed for verification.

Blood samples were analyzed as follows:

**Hitachi 917, Roche Corporation Automatic Analyzer**

Aspartate aminotransferase (*Kinetic - Modified IFCC Technique*)

Alanine aminotransferase (*Kinetic - Modified IFCC Technique*)

Alkaline phosphatase (*Kinetic – Modified AMP Buffer*)

Blood urea nitrogen (*Kinetic - Modified Urease*)

Creatinine (*Kinetic – Modified Jaffe Method*)

Glucose (*Hexokinase Method*)

Cholesterol (*Enzymatic – Modified Trinder Method*)

Triglycerides (*GPO Triglyceride-lipase Method*)

Total protein (*Biuret Technique*)

Albumin (*Bromocresol Green Method*)

Uric acid (*Uricase Method*)

Total bilirubin (*Modified Wahlefeld et al.*)

Sodium (*Ion Selective Electrode*)

Potassium (*Ion Selective Electrode*)

Chloride (*Ion Selective Electrode*)

Calcium (*Cresolphthalein Complexone Method*)

Inorganic phosphorus (*Phosphomolybdate - UV Method*)

**Other**

Globulin (*calculated value; total protein - albumin*)

Albumin/globulin ratio (*calculated value; albumin ÷ globulin*)

**2.19. BLOOD MOLYBDENUM**

Blood samples were obtained for the determination of serum concentrations of molybdenum (and copper, zinc and manganese).

**2.19.1. COLLECTION INTERVALS**

During Week 4 (Days 22 to 25), Week 12 (Days 78 to 81) and during the 1<sup>st</sup> week of the recovery period (2 days and 7 days after termination of the treatment period) of the recovery period, blood samples were obtained for molybdenum determinations from all surviving animals at each interval. During Weeks 4 and 12, approximately equal numbers of animals per sex per group per day were sampled. Samples were collected at approximately 0900 ( $\pm 75$  minutes) on each day.

### **2.19.2. COLLECTION PROCEDURES**

Approximately 0.5 mL of whole blood was obtained from each unanesthetized animal via the jugular vein. When necessary, animals were lightly anesthetized with isoflurane. Animals were not fasted prior to blood collection. Blood was collected into plastic silicone coated interior (Royal Blue Top) tubes, containing no additive and placed at room temperature in an upright position and allowed to clot for at least 30 minutes.

In Week 12 for all animals scheduled for terminal sacrifice, blood (approximately 0.25 mL) was also collected into lithium heparin tubes and inverted and placed into wet ice.

### **2.19.3. PROCESSING, STORAGE AND DISPOSITION OF SAMPLES**

Blood samples collected into plastic silicone coated interior tubes were processed to obtain serum. Serum was separated by centrifugation (for 10 minutes at approximately 3000 rpm, at approximately 2–8°C). Serum (approximately 0.2 mL) was transferred into a cryotube. Tubes were stored frozen at approximately -80°C ( $\pm 10^\circ\text{C}$ ) (within 2 hours after collection of each blood sample) until shipped for analysis.

Blood samples collected into tubes containing lithium heparin were transferred into cryotubes and stored refrigerated at approximately 2 to 8 °C (within 2 hours after collection of each blood sample) until shipped on wet ice until shipped for analysis.

Serum and whole blood samples were appropriately labeled as to study number, animal number, time point and date of sampling and sample type and shipped to Justin Zystkoski at the following address:

DCPAH at Michigan State University  
4125 Beaumont Drive  
Lansing, Michigan 48910-8104

#### **2.19.4. SAMPLE ANALYSIS AND REPORTING**

Serum samples were analyzed with a validated inductively coupled plasma mass spectrometry (ICP-MS) method under non-GLP conditions. Results of the analyses are provided in tables presented in [Appendix A](#).

### **2.20. POSTMORTEM**

#### **2.20.1. NECROPSY INFORMATION**

Necropsy was performed on up to 10 animals/sex/group after animals had been treated for up to 92 days. Animals were fasted overnight prior to necropsy. Necropsy of the remaining 10 animals/sex/group from Groups 1 and 4 occurred after the animals had been allowed to recover for up to 60 days after termination of the treatment period. A necropsy schedule was established to ensure that approximately equal numbers of males and females were examined on each day of necropsy and that examination of animals of both sexes were performed at similar times of the day throughout the necropsy period.

##### **Method of Euthanasia**

Exsanguination following carbon dioxide inhalation.

#### **2.20.2. MACROSCOPIC EXAMINATIONS**

Complete macroscopic examinations were performed on all animals. The macroscopic examination included examination of the external surface and all orifices; the external surfaces of the brain and spinal cord; the organs and tissues of the cranial, thoracic, abdominal and pelvic cavities and neck; and the remainder of the carcass for the presence of macroscopic morphologic abnormalities.

#### **2.20.3. SPERM ASSESSMENT**

Sperm evaluations were performed as outlined in OECD 416 (adopted 22 Jan 2001).

### **Sperm Counts**

The right testis and cauda epididymis of all surviving animals at the terminal sacrifice and at the recovery sacrifice were removed intact, weighed fresh, and then frozen at approximately  $-80^{\circ}\text{C}$  ( $\pm 10^{\circ}\text{C}$ ) until evaluation for sperm count (spermatids in the testis).

All surviving males (all groups at terminal sacrifice and at the recovery sacrifice) were processed for sperm counts. For each of these animals, homogenized samples of the caudal epididymis and the testis were stained and examined using a Hamilton Thorne IVOS sperm analyzer. For each stained preparation, 10 fields were counted. The total number of sperm in the caudal epididymis, or spermatids in the testis, was calculated and reported adjusted for organ weight.

### **Sperm Morphology**

Two sperm morphology slides were prepared for each of the surviving males (all groups at terminal sacrifice and at the recovery sacrifice). These slides were stained with Eosin and Nigrosine. The slides of all males at the terminal sacrifice and at the recovery sacrifice were evaluated for morphological development (approximately 200 sperm per animal within the 2 slides were assessed).

### **Sperm Motility**

From all males (all groups at the terminal sacrifice and at the recovery sacrifice), the right vas deferens were excised and placed in a pre-warmed solution of phosphate buffered saline and 7.5% Bovine Serum Albumin Fraction V in Medium 199. After a "swim-out" period, a sample was placed in a Hamilton Thorne IVOS sperm analyzer and at least 200 sperm and/or five microscope field images were stored electronically.

The stored fields belonging to the all males chosen for sperm counts were reported for percent motility.



**2.20.4. ORGAN WEIGHTS**

Organs indicated in [Table 2.20.5-1](#) were weighed for all animals at the scheduled sacrifice intervals. Prior to weighing, the organs were carefully dissected and properly trimmed to remove adipose and other contiguous tissues in a uniform manner. Organs were weighed as soon as possible after dissection in order to avoid drying. Paired organs were weighed together.

**2.20.5. TISSUES PRESERVED AND EXAMINED HISTOPATHOLOGICALLY**

The tissues listed in [Table 2.20.5-1](#) were obtained during the necropsies and preserved for all animals. In addition, slides of the indicated tissues were prepared and examined microscopically for all animals sacrificed at termination of the treatment period as well as the animal which died an unscheduled death. Any abnormalities not noted during macroscopic examinations which were seen during histology processing were recorded. In addition, the adrenal glands from males and the kidneys from females in Groups 2 and 3, sacrificed at termination of the treatment period and from animals in Groups 1 and 4 sacrificed at the end of the recovery period were examined microscopically

**Table 2.20.5-1**

<b>ORGAN NAME</b>	<b>WEIGHED</b>	<b>PRESERVED</b>	<b>EXAMINED MICROSCOPICALLY</b>
adrenal glands	X	X	X
aorta (thoracic)		X	X
bone marrow smear (femur)		X	
bone (sternum, distal femur)		X	X
bone marrow (sternum, distal femur)		X	X <sup>a</sup>
brain (medulla, pons, cerebrum and cerebellum)	X	X	X
epididymides	X	X	X
esophagus		X	X
eyes		X	X
Harderian gland		X	X

<b>ORGAN NAME</b>	<b>WEIGHED</b>	<b>PRESERVED</b>	<b>EXAMINED MICROSCOPICALLY</b>
heart	X	X	X
kidneys	X	X	X
lacrimal glands		X	X
large intestine (cecum, colon, rectum)		X	X <sup>b</sup>
liver	X	X	X
lungs (with mainstem bronchi)		X	X
lymph nodes (mesenteric, mediastinal)		X	X
mammary gland (inguinal)		X	X
nerve (sciatic)		X	X
optic nerve		X	
ovaries	X	X	X
pancreas		X	X
pituitary gland	X <sup>c</sup>	X	X
prostate gland	X <sup>d</sup>	X	X
salivary glands (submandibular)		X	X
seminal vesicles	X <sup>d</sup>	X	X
skeletal muscle ( <i>rectus femoris</i> )		X	X
skin (dorsal – base of tail)		X	X
small intestine (duodenum, ileum, jejunum, Peyer's patches/GALT)		X	X
spinal cord (cervical, mid-thoracic, lumbar)		X	X
spleen	X	X	X
stomach		X	X
testes	X	X	X
thymus	X	X	X
thyroid/parathyroid glands	X <sup>c</sup>	X	X
trachea		X	X
urinary bladder		X	X
uterus (body/horns) with cervix	X	X	X
vagina		X	X

ORGAN NAME	WEIGHED	PRESERVED	EXAMINED MICROSCOPICALLY
tissues with macroscopic findings including tissue masses		X	X

<sup>a</sup>Qualitative examination (no differential count).

<sup>b</sup>The cecum and colon were examined microscopically; however, the rectum was not examined microscopically.

<sup>c</sup>Weighed post-fixation.

<sup>d</sup>Prostate and seminal vesicles were weighed together.

### Preservatives

All tissues - 10% neutral buffered formalin.

Eyes and testes were placed in Modified Davidson's solution and then retained in 10% formalin. Lungs were infused with formalin prior to their immersion into a larger volume of the same fixative.

Smear preparations of the marrow from the femur were air dried and fixed in absolute methanol.

### Processing

After fixation, the tissues and organs from all animals sacrificed at termination of the treatment period were routinely processed, embedded in paraffin, cut at a microtome setting of 4-7 microns, mounted on glass slides, stained with hematoxylin and eosin and examined by light microscopy. The bones were decalcified in Decalcifier II<sup>®</sup>.

#### 2.20.6. LIVER AND KIDNEY SAMPLES

Liver (left lobe) and kidney (a longitudinal section of the left kidney) samples (at least 0.5 grams) were collected: The sections of tissue were flash frozen in liquid nitrogen and stored in Cryovials. Each sample was labeled with the study number and animal number. The samples were not weighed by the Testing Facility but were dried and weighed by the analytical laboratory. The samples were stored at approximately -80°C (±10°C) until shipped on dry ice to Justin Zyskowski at the following address:

DCPAH at Michigan State University  
4125 Beaumont Drive  
Lansing, Michigan 48910-8104

The samples were analyzed for molybdenum, copper, zinc and manganese under non-GLP conditions using a validated inductively coupled plasma mass spectrometry (ICP-MS) method. Tissues were dried in a 75°C oven in preparation for the acid digest and analysis. The results of the analysis are presented in [Appendix A](#).

## 2.21. STATISTICAL ANALYSIS

The following parameters were analyzed statistically:

- body weight
- body weight change from interval to interval
- cumulative body weight change from baseline
- food consumption
- food conversion efficiency
- hematology
- coagulation
- clinical chemistry
- organ weights
- estrous cycles
- sperm evaluations

### 2.21.1. METHOD OF ANALYSIS

The parameters to analyze were identified as continuous, discrete or binary. Test-substance treated groups were then compared to the control using the following procedures.

For all parameters, significant differences between control and test substance-treated groups were expressed at the 5% ( $p < 0.05$ ), 1% ( $p < 0.01$ ) or the 0.1% ( $p < 0.001$ ) level.

#### Continuous Parameters

For comparisons involving more than two groups, if Bartlett's test for variance homogeneity ([Bartlett, 1937](#)) was not significant at the 1% level, then parametric methods were applied. If the F1 approximate test for monotonicity (described below) of dose-response was not significant at the 1% level, Williams' test ([Williams', 1971, 1972](#)) for a monotonic trend was applied. If the

F1 test was significant, suggesting that the dose-response was not monotone, Dunnett's test (Dunnett, 1955, 1964) was performed instead. If Bartlett's test was significant at the 1% level, then logarithmic and square-root transformations were tried. If Bartlett's test was still significant, then non-parametric methods were applied to mean ranks. If the H1 approximate test for monotonicity (described below) was not significant at the 1% level, Shirley's test for a monotonic trend (Shirley, 1977) was applied. If the H1 test was significant, then Steel's test (Steel, 1959) was performed instead.

The F1 test is designed to detect significant departure from monotonicity of an ordered set of means. The test statistic compares the mean square, NMS, for the deviations of the absolute or adjusted means from the maximum likelihood means, calculated under a constraint of monotonicity, with the usual error mean square, EMS. The null hypothesis is that the true means are monotonically ordered. The test statistic is  $F1 = NMS/EMS$  which can be compared with standard tables of the F-distribution with 1 and error degrees of freedom.

The H1 test is the non-parametric equivalent of the F1 test. The test statistic compares the non-monotonicity sums of squares, NRSS, for the deviations of the mean ranks from the maximum likelihood mean ranks, with the non-parametric equivalent of the error sums of squares,  $ERSS = N(N+1)/12$ . The test statistic is  $H1 = NRSS/ERSS$  which can be compared to standard tables of the  $\chi^2$ -distribution with 1 degree of freedom.

For comparisons involving only two groups, if Bartlett's test for variance homogeneity (Bartlett, 1937) was not significant at the 1% level, then parametric methods were applied to either the absolute or adjusted means if an analysis of covariance was performed. Comparisons were performed using *t*-tests. If Bartlett's test was significant at the 1% level, then logarithmic and square-root transformations were tried. If Bartlett's test was still significant, then non-parametric methods were applied to mean ranks. Comparisons were performed using Wilcoxon rank sum tests (Wilcoxon, 1945).

### Discrete Parameters

For comparisons involving more than two groups, if the Jonckheere-Terpstra test (Jonckheere, 1954) was significant at the 5% level, then the direction of the trend was established and one-tailed step-down testing in this direction was performed. If the Jonckheere-Terpstra test was not significant at the 5% level, then the Kruskal-Wallis test (Kruskal and Wallis, 1952, 1953) was applied. If the Kruskal-Wallis test was significant at the 5% level, the test-substance treated groups were compared to the control using exact Wilcoxon rank sum tests (Wilcoxon, 1945), otherwise, no further comparisons were made.

Comparisons involving only two groups were performed using Wilcoxon rank sum tests (Wilcoxon, 1945).

### Binary Parameters

For comparisons involving more than two groups, if the Cochran-Armitage test (Armitage, 1955) was significant at the 5% level, then the direction of the trend was established and one-tailed step-down testing in this direction was performed. If the Cochran-Armitage test was not significant at the 5% level, then the  $\chi^2$  test (Armitage et al 2002) was applied. If the  $\chi^2$  test was significant at the 5% level, the test-substance treated groups were compared to the control using Fisher's Exact tests (Fisher, 1973), otherwise, no further comparisons were made.

Comparisons involving only two groups were made using Fisher's Exact tests (Fisher, 1973).

## 2.22. MAJOR COMPUTER SYSTEMS

The following major computer/software systems were utilized at Huntingdon Life Sciences, East Millstone, New Jersey:

System	Version	Use
ClinAxys II	1.1.5.1.2	Acquisition, processing and reporting of clinical pathology data from a variety of instruments

System	Version	Use
Hamilton – Thorne Sperm Analyzer	12	Collection and integration of sperm data
Liberate Reporting System	2.2	Generation of report tables for the clinical observations, body weight, food consumption, organ weight and clinical pathology data in MS Word formats
Microsoft Word and/or Excel		Additional formatting of report tables
Pristima System	6	Documentation of receipt and tracking of substances received by Pharmacy.
Quasar	1.1	Statistical analysis of data
REES Scientific Environmental Monitoring System	WIN 1.5	Monitor and record temperature, humidity and/or light intensity readings of applicable rooms as well as the temperature readings of applicable refrigerators and/freezers
Xybion Path/Tox System	4.2.2	Randomization for group assignment; direct online capture of clinical observations, ophthalmoscopic findings, body weights, food consumption data, organ weights and anatomic pathology data and documentation of dose administration; and generation of report tables for the anatomic pathology data

### 2.23. DATA STORAGE

All raw data, preserved specimens, and retained samples, as well as the original study protocol and the original final report are to be maintained in the Archives of the Testing Facility upon completion of the study. The Sponsor will determine the final disposition of these materials.

Biological samples collected for clinical pathology will be stored for up to 6 months after completion of assays and then discarded.

Any retained blood samples will be maintained at the Testing Facility for at least 2 months after issuance of the final bioanalytical report. The Sponsor will determine the final disposition of samples.

All raw data, feed and biological samples, documents, and original reports pertaining to dose formulation analysis and blood/tissue analysis performed by DCPAH at Michigan State University will be maintained by the Sponsor.

## **2.24. REGULATORY REFERENCES**

### **2.24.1. TEST GUIDELINES**

This study was conducted in compliance with the Organization for Economic Cooperation and Development (OECD) Guidelines for Testing of Chemicals Number 408: Repeated Dose 90-Day Oral Toxicity Study in Rodents Adopted 21st September 1998; and sections from guideline OECD 416 Adopted 22nd January 2001.

### **2.24.2. GOOD LABORATORY PRACTICES**

This study was conducted in compliance with the Organization for Economic Cooperation and Development (OECD) Principles of Good Laboratory Practices ENV/MC/CHEM/(98)17; the Japan Ministry of Agriculture, Forestry and Fisheries (JMAFF) Good Laboratory Practice Regulations (Notification No. 3850); the EC Commission Directive 2004/10/EC of 11 February 2004 (Official Journal No L 50/44) and the EPA Good Laboratory Practices as set forth in 40 CFR Part 792 (TSCA) with the following exceptions:

The dose formulation analysis and bioanalytical analysis of blood and tissue samples were not conducted in compliance with the above referenced GLPs because the conducting lab is not GLP compliant; however, the laboratory is fully certified by the American Association of Veterinary Laboratory Diagnosticians (AAVLD) and has in place a well-founded QC program to assure the accuracy of its reported results. For this study, the laboratory utilized a state-of-the-art inductively coupled plasma mass spectrometer.



### **2.24.3. ANIMAL WELFARE ACT COMPLIANCE**

This study complied with all appropriate parts of the Animal Welfare Act Regulations: 9 CFR Parts 1 and 2 Final Rules, Federal Register, Volume 54, No. 168, August 31, 1989, pp. 36112-36163 effective October 30, 1989 and 9 CFR Part 3 Animal Welfare Standards; Final Rule, Federal Register, Volume 56, No. 32, February 15, 1991, pp. 6426-6505 effective March 18, 1991.

### **2.25. PROTOCOL DEVIATIONS**

The following protocol deviations occurred during the study but were not considered to have compromised the validity or integrity of the study.

1. Body weights were recorded on 25 October 2010 (Randomization Week 1); however, a body weight was not recorded for Animal No. 1514. Therefore, the body weight for this animal was recorded once during the pretest period. The protocol required body weights are recorded at least twice pretest.
2. In addition to the duplicate samples taken from the Week 1 test substance formulation preparation for homogeneity analysis (top/middle/bottom), additional duplicate samples were taken from the middle of the batch. These samples were discarded without analysis. The protocol required these samples be collected from subsequent preparation after the Week 1 preparation.
3. Test substance diet calculations and formulations were prepared on 13 December 2010 (for Week 8) as scheduled. Test substance diet calculations were prepared on 27 December 2010 (for Week 10); however, due to inclement weather, the calculations were not reviewed in a timely manner which delayed the test substance formulations preparation to 28 December 2010 (for Week 10). The protocol required formulations be prepared once weekly for the first 4 weeks of the study and then every other week for the remainder of the study.
4. Blood samples for clinical pathology were collected from Animal Nos. 1011, 1012, 4011, 1511, 4511 and 4512 prior to sacrifice at the end of the recovery period although they were not required. The samples were discarded prior to processing.

5. Detailed physical examinations were performed twice during the first week of the recovery period. The protocol required physical examinations be performed weekly during the study period.
6. Protocol Section 6.3.5 (Acceptance Criteria for dose analysis) states that homogeneity and dose confirmation samples will be within 10% of each other and mean results should be within 10% of nominal. These criteria were not met for Week 1 preparations. The initial results from the Week 1 preparations were suspect (they varied between 83-121% of the expected results) but analysis of secondary (and blinded samples) showed similar results and thus the initial results were accepted for summary calculations.

### 3. RESULTS AND DISCUSSION

#### 3.1. ANALYTICAL CHEMISTRY

##### (Appendix A)

Analysis confirmed that the preparation procedure used for this study produced homogeneous mixtures under storage conditions used in this study. Analyses conducted during the treatment period confirmed that dose formulations of appropriate concentration were administered. The initial results from the Week 1 preparations were suspect (they varied between 83-121% of the expected results) but analysis of secondary (and blinded samples) showed similar results and thus the initial results were accepted for summary calculations below.

Mean nominal and analytical Mo results, expressed as concentration and percent of nominal (desired) concentrations were as follows:

**Table 3.1-1: Molybdenum in the Diet Results (average of the homogeneity and dose confirmation samples for the entire study)**

<b>GROUP</b>	<b>NOMINAL Mo CONC.</b>	<b>ANALYTICAL Mo CONC.</b>	<b>ANALYTICAL Mo CONC.</b>
	(ppm)	(ppm)	(% of Nominal)
1	0	0.9	NA
2	75	68	91
3	263	268	102
4	896	907	101

NA = not applicable

The nominal Mo concentrations were calculated by averaging the target sodium molybdate dihydrate concentration for each prepared batch and multiplying by 40% to correct for the molybdenum content.

The Mo concentration in Group 1 samples was considered typical and expected background.

#### 3.2. BLOOD MOLYBDENUM DETERMINATIONS

##### (Appendix A)

Mean serum and whole blood molybdenum results from the Weeks 4 and 12 during dosing and the Days 2 and 7 during recovery were as follows:

**Table 3.2-1: Serum and Whole Blood Molybdenum Results - males**

<b>GROUP</b>	<b>Serum Week 4</b>	<b>Serum Week 12</b>	<b>Whole Blood Week 12</b>	<b>Serum Day 2 Recovery</b>	<b>Serum Day 7 Recovery</b>
	(ng/mL)	(ng/mL)	(ng/mL)	(ng/g)	(ng/g)
1	18.7	19.4	11.9	19.0	20.6
2	1332	1309	912	NA	NA
3	4687	4674	2930	NA	NA
4	16277	18497	9903	4382	2425

NA = not applicable

**Table 3.2-2: Serum and Whole Blood Molybdenum Results - females**

<b>GROUP</b>	<b>Serum Week 4</b>	<b>Serum Week 12</b>	<b>Whole Blood Week 12</b>	<b>Serum Day 2 Recovery</b>	<b>Serum Day 7 Recovery</b>
	(ng/mL)	(ng/mL)	(ng/mL)	(ng/g)	(ng/g)
1	19.8	17.9	11.1	15.1	33.3
2	991	1121	720	NA	NA
3	3370	4311	2628	NA	NA
4	13176	15531	7736	6447	2841

NA = not applicable

The above results showed:

1. The males had higher serum and/or whole-blood exposure to Mo than the females (~23% on average for Groups 2-4) at all dose levels at both weeks 4 and 12 of dosing. This is the opposite of expected based on the test substance intake results (see [Section 3.7](#)) where the females had higher Mo intake.
2. There was no or only slight accumulation of Mo in the serum, since the week 12 serum results were only slightly greater (~14% on average for Groups 2-4 both sexes) than week 4 serum results.
3. The whole blood results in week 12 were consistently lower (~55% on average for Groups 2-4 both sexes) than the serum results in Week 12. This was the opposite of what has been reported for humans ([Burtis et al, 2006](#)) where the whole blood results were reported to be twice the serum results for a similar dietary exposure to Mo.

4. A rapid recovery at days 2 and 7 after completion of dosing as expressed by substantially and progressively lower serum results at both intervals of measurement in the Group 4 animals.
5. Examination of Appendix A also shows that the serum copper levels were increased in the high dose Group 4 animals compared with the control Group 1 animals. The mean copper levels at 4 weeks in the control males was 1.266 µg/mL and in the females was 1.767 µg/mL. In the Group 4 males the level was 4.512 µg/mL and in females was 4.513 µg/mL. At 12 weeks, the levels were still elevated with serum copper levels in Group 4 males of 5.786 µg/mL and in females of 6.627 µg/mL.

### 3.3. MORTALITY

#### (Appendix B)

There were no test substance-related unscheduled decedents.

One 60 mg Mo/kg bw/day male (#4016) was found dead on Day 47. There were no clinical signs prior to death and no negative effect on body weight. There were no macroscopic or microscopic findings to explain the cause of death. This single death was considered incidental and not related to the administration of the test substance.

### 3.4. CLINICAL OBSERVATIONS

#### (Tables 1 and 2, Appendices C and D)

There were no test substance-related clinical signs.

### 3.5. OPHTHALMOLOGY

#### (Table 3, Appendix E)

There were no test substance-related ocular abnormalities.

### 3.6. BODY WEIGHTS

#### (Figures 1 and 2, Tables 4, 5 and 6, Appendices F, G and H)

##### Dosing Phase

In 60 mg Mo/kg bw/day males, statistically significant decreases in body weight gains were observed almost weekly from Week 1 through Week 13

as measured from the pretest baseline and as measured from interval-to-interval. By the end of the dosing phase, absolute body weight in the 60 mg Mo/kg bw/day males were 15.1% less than controls. There were no test substance-related effects on the body weights for the 5 and 17 mg Mo/kg bw/day males.

In 60 mg Mo/kg bw/day females, there were statistically significant decreases in body weight gains weekly starting at Week 6 as measured from the pretest baseline. These differences were only occasionally seen in the interval-to-interval measures. By the end of the dosing phase, absolute body weight in the 60 mg Mo/kg bw/day females was 5.6% lower than controls (the value was not statistically significant). There were no test substance-related effects on the body weights for the 5 and 17 mg Mo/kg bw/day females.

#### **Recovery Phase**

In 60 mg Mo/kg bw/day males, statistically significant increases in body weight gains were noted at each weekly intervals but the absolute body weight was still 9.5% less than controls by the end of the study.

In 60 mg Mo/kg bw/day females, there were weekly increases in body weight gains but only a few values were statistically significant. The absolute body weights in these females were considered to have recovered by the end of the study.

### **3.7. FOOD CONSUMPTION, TEST SUBSTANCE INTAKE AND FOOD CONVERSION EFFICIENCY**

**(Figures 3 and 4, Tables 7, 8 and 9, Appendices I, J and K)**

#### **Dosing Phase**

**Food Consumption:** The 60 mg Mo/kg bw/day males had statistically significant decreases in food consumption on numerous occasions throughout the dosing phase. The weekly food consumption in test substance-treated females was generally considered to be comparable to control values.

**Test Substance Intake:** Test substance intake was on average close to the intended values with the males consistently less than intended and the females consistently greater than intended as a result of using averaged body weight and food consumption data for the calculations of dose

concentration during the study. The averaged results for the study are summarized:

**Table 3.7-1: Test Substance Intake Results – mg Mo/kg bw/day**

<b>Group – target dose</b>	<b>Males</b>	<b>Females</b>	<b>Mean</b>
2 – 5 mg Mo/kg bw/day	4.5	5.4	5.0
3 – 17 mg Mo/kg bw/day	15.1	19.0	17.1
4 – 60 mg Mo/kg bw/day	54.8	65.2	60.0

Food Conversion Efficiency: Food conversion efficiency showed that the 60 mg Mo/kg bw/day males and females generally had lesser values than the concurrent control animals during the dosing phase. This suggests that the reduced bodyweight gain was not only due to reduced food intake as a possible consequence of a palatability problem, but may suggest some interference with nutrition. No such effects were observed in the mid and low dose groups of animals.

### **Recovery Phase**

Food Consumption: Weekly food consumption in the 60 mg/kg bw/day males and females was considered to be comparable to their concurrent controls.

Test Substance Intake: Not relevant during this interval

Food Conversion Efficiency: Food conversion efficiency showed that the 60 mg Mo/kg bw/day males and females generally had greater values than the concurrent control animals during the initial intervals indicating a recovery from the dosing phase.

## **3.8. CLINICAL PATHOLOGY**

### **3.8.1. HEMATOLOGY**

(Table 10, Appendix L)

#### **Dosing Phase**

There were no test substance-related hematologic findings.

All changes, statistically significant or otherwise, were not considered to be test substance-related because they were within

normal biological variability or secondary to analytical artifacts (platelet clumping).

### 3.8.2. COAGULATION

(Table 10, Appendix L)

#### Dosing Phase

Marginal ( $\leq 1$ -second) statistically significant and not dose related shorter prothrombin times (PT) were noted in males receiving  $\geq 5$  mg Mo/kg bw/day. These changes were not considered to be related to the administration of the test substance because they were marginal, not dose-related and not observed in females. No changes were seen for activated partial thromboplastin time (APTT).

### 3.8.3. CLINICAL CHEMISTRY

(Table 10, Appendix L)

#### Dosing Phase

There were no test article-related clinical chemistry changes.

All changes, including statistically significant decreases in uric acid and creatinine in females, but not in males, and total protein and calcium in males, were not considered to be test article-related because they were small in magnitude, not dose related, due to outliers in control animals, and/or were consistent with normal biological variability.

### 3.9. VAGINAL CYTOLOGY/ESTROUS CYCLE

(Table 11, Appendix M)

#### Dosing Phase

There were no test substance-related effects on vaginal cytology and estrous cycles during weeks 7-9 of the dosing phase (i.e., the period during which vaginal cytology and estrous cycles were evaluated).



**3.10. ORGAN ANALYSIS****(Appendix A)**

Mean organ molybdenum concentrations (dry weight basis) from the Terminal and Recovery sacrifice intervals were as follows:

**Table 3.10-1: Molybdenum in Organs Results - Terminal**

<b>GROUP</b>	<b>Liver Conc - males</b>	<b>Kidneys Conc. - males</b>	<b>Liver Conc - females</b>	<b>Kidneys Conc - females</b>
	(ug/g)	(ug/g)	(ug/g)	(ug/g)
1	2.22	0.93	2.45	0.94
2	2.54	2.30	3.41	3.83
3	4.00	9.52	4.92	10.94
4	12.02	43.18	12.99	55.04

NA = not applicable

**Table 3.10-2: Molybdenum in Organs Results - Recovery**

<b>GROUP</b>	<b>Liver Conc - males</b>	<b>Kidneys Conc. - males</b>	<b>Liver Conc - females</b>	<b>Kidneys Conc - females</b>
	(ug/g)	(ug/g)	(ug/g)	(ug/g)
1	1.88	0.91	2.71	0.97
4	2.30	7.04	4.58	16.86

NA = not applicable

The above results showed:

1. The Group 2 liver concentrations at termination were only slightly higher than Group 1 liver concentrations suggesting close to background levels at the low dose level.
2. The Groups 3 and 4 liver concentrations at termination were elevated above Groups 1-2 concentrations but not in a fully dose proportional manner.
3. The Group 4 liver concentrations at end of recovery were substantially lower than at termination suggesting a nearly complete recovery (especially in the males) towards background levels.
4. The Groups 2-4 kidney concentrations at termination were elevated above Group 1 concentrations and in a nearly dose proportional manner.

5. The Group 4 kidney concentrations at end of recovery were substantially lower than at termination suggesting an incomplete recovery towards background levels.
6. Examination of [Appendix A](#) also shows that the liver and kidney copper levels were increased in the high dose Group 4 animals compared with the control Group 1 animals. The mean liver copper level in the Group 1 males was 16.97 µg/g and in females was 19.22 µg/g. In the Group 4 males it was 25.06 µg/g, and in females was 36.33 µg/g. Similarly, in the kidney the copper levels in the Group 1 males was 30.191 µg/g and in females was 43.538 µg/g. In the Group 4 males it was 81.70 µg/g and in the females was 138.72 µg/g. In the recovery Group 4 animals the copper levels in liver and kidney were reduced but still higher than in the Group 1 controls. This may be important since some of the kidney toxicity (see [Section 3.13.3](#)) may be related to the high copper levels in the tissues.

### 3.11. ORGAN WEIGHTS

([Table 12](#), [Appendix N](#))

#### Dosing Phase

The 60 mg Mo/kg bw/day males had statistically significant absolute organ weight changes with decreases compared to control values in pituitary, spleen, heart and liver. These organ weights relative to bodyweights were not decreased however. These changes were generally attributed to the decreases in body weight in these animals. Although there was a decrease in the absolute weight of the brain, there was an increase relative to body weight. Similarly, the testis and epididymal weights relative to body weight were increased due to the fact that these organs are conserved despite body weight loss. In the absence of similar changes in the females or confirming histopathology (see [Section 3.13](#)), the organ weight changes were not considered to be related directly to administration of the test substance.

The  $\geq 5$  mg Mo/kg bw/day females had small but statistically significant decreases in absolute and relative thyroid weights. Since the magnitude of the decreases were small, decreases were not dose-related, and there was no histopathological correlate, and a similar effect was not observed in males, this organ weight change is also not considered to be related to the test substance.

**Recovery Phase**

The 60 mg Mo/kg bw/day males had statistically significant absolute organ weight changes with decreases compared to control values in heart, kidneys and liver. These changes were generally attributed to the not fully recovered decreases in body weight in these animals. The 60 mg Mo/kg bw/day females had no statistically significant absolute and relative organ weight changes, including the thyroid, compared to control values.

**3.12. SPERM EVALUATIONS**

(Table 13, Appendix O)

**Dosing Phase**

No effect of treatment was observed on testes or secondary sex organ weights, and no effects on spermatid or sperm counts, motility or morphology were observed.

The 60 mg Mo/kg bw/day males had a slight but statistically significant decrease of 15% in progressively motile sperm at the Terminal Sacrifice (59.0% versus 69.4% in the control group). This difference was due to the control group having a value that approached the upper limit for this parameter among historical control groups and was therefore not considered a test substance-related finding. The Testing Facility's Historical Control value for progressively motile sperm is  $59.8\% \pm 16.2\%$  which closely approximates the 60 mg Mo/kg bw/day value of 59%. All other changes in sperm motility and morphology were considered unrelated to the test substance because they were small in magnitude and values were compatible with normal biological variability.

**Recovery Phase**

The above noted difference from the Control group abated at the Recovery Sacrifice (57.2% versus 63.4% in the control group) and no difference from controls was observed in testes or epididymal sperm counts, motility, progressive motility or morphology.

**3.13. ANATOMIC PATHOLOGY**

All animals from the dosing and recovery phases were examined grossly for macroscopic abnormalities at necropsy. All protocol specified tissues were examined microscopically from the controls and high dose

(60 mg Mo/kg bw/day) groups at the end of dosing. Following this examination, the kidneys from females and the adrenals from males were identified as potential target tissues. Therefore, the adrenals from all males and the kidneys from all females administered 5 and 17 mg Mo/kg bw/day (end of dosing phase) were examined. In addition, the adrenals from males and kidneys from females in the control and 60 mg Mo/kg bw/day recovery phase were examined.

### 3.13.1. UNSCHEDULED DEATHS

One male (#4016) administered 60 mg Mo/kg bw/day and assigned to the recovery phase, was found dead on Day 47 of the study. There were no macroscopic or microscopic findings to explain the cause of death. In the absence of any other mortality or clinical signs in other test substance treated animals, this single death is considered incidental and unrelated to test substance administration.

### 3.13.2. MACROSCOPIC

(Table 14, Appendix P)

There were no macroscopic findings related to administration of sodium molybdate dihydrate. Macroscopic findings were sporadic and showed no relationship to dose. They were considered incidental and unrelated to test substance administration.

### 3.13.3. MICROSCOPIC

(Table 15, Appendix P)

#### Dosing phase

Microscopic findings considered to be related to test-substance administration were present in the kidneys of females administered 60 mg Mo/kg bw/day. Two females from the 60 mg Mo/kg bw/day dose group showed slight diffuse hyperplasia of the proximal tubules in the kidney. Although the finding was only present in two test substance treated rats, it is uncommon as a background finding in this age of animal and is therefore considered test-substance related. It is possible that the elevated concentrations of copper in the kidneys (see Section 3.10) may

play some role in the histopathological changes in the kidneys among the high dose females.

There were no test substance related changes in the male or female reproductive tissues (testes, epididymides, prostate, seminal vesicles, ovaries, uterus or vagina). Only 1 rat had testicular tubular degeneration/atrophy (minimal) and that was a control animal. In females, 4 controls and 4 60 mg Mo/kg bw/day rats had atrophic changes in the ovaries, and 2 rats in each of these 2 groups had ovarian cysts. These changes reflect the beginning of reproductive senescence in this age of animal.

### **Incidental Findings**

Compared with the controls, there was an increased incidence of 'minimal' and 'slight' vacuolation in the cells of the zona fasciculata in the adrenal cortex of males administered 60 mg Mo/kg bw/day. Further examination of adrenals from males in the intermediate dose groups showed no dose relationship for this finding. Increased cortical vacuolation of the adrenal is a relatively common background finding in rats that generally reflects normal but variable physiological activity. The increased incidence of the finding in the 60 and 5 mg Mo/kg bw/day males is considered incidental and unrelated to test-substance administration.

All other recorded microscopic findings were considered incidental and unrelated to administration of sodium molybdate dihydrate. They occurred at similar incidences in the control and test substance treated groups or they were sporadic with no relationship to dose.

### **Recovery Phase**

The finding of proximal tubule hyperplasia in the kidneys of females administered 60 mg Mo/kg bw/day was not observed in any of the animals following a 60 day recovery period.

## **4. CONCLUSION**

The dietary administration of 5, 17 or 60 mg/kg bw/day of Mo (molybdenum in sodium molybdate dihydrate) to rats for at least 90 days resulted in reduced bodyweight gain in the 60 mg Mo/kg bw/day animals. The effect was more

severe in males. In males, this may have been due in part to slightly reduced food intake. Light microscopy evaluation of control and 60 mg Mo/kg bw/day animals identified test substance-related findings in the kidneys (slight diffuse hyperplasia of the proximal tubules) of two 60 mg Mo/kg bw/day females which recovered following up to 60 days after completion of dosing. No adverse effects were observed on the gonads, estrous cycles or sperm analyses in any of the treated animals. A NOAEL was determined to be 17 mg Mo/kg bw/day based on the effects on body weights and kidneys seen at 60 mg Mo/kg bw/day. The NOAEL for testicular (or gonadal) and sperm and estrous cycle effects is > 60mg Mo/kg bw/day.

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	General Preface	
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**General Notes**

Individual animal data presented in this report may be rounded. Unrounded individual animal data were used to calculate the reported mean and standard deviation values. Therefore, use of the reported individual values to reproduce means, standard deviations and/or to perform any subsequent calculations may produce minor discrepancies between the calculated values and those presented in this report.

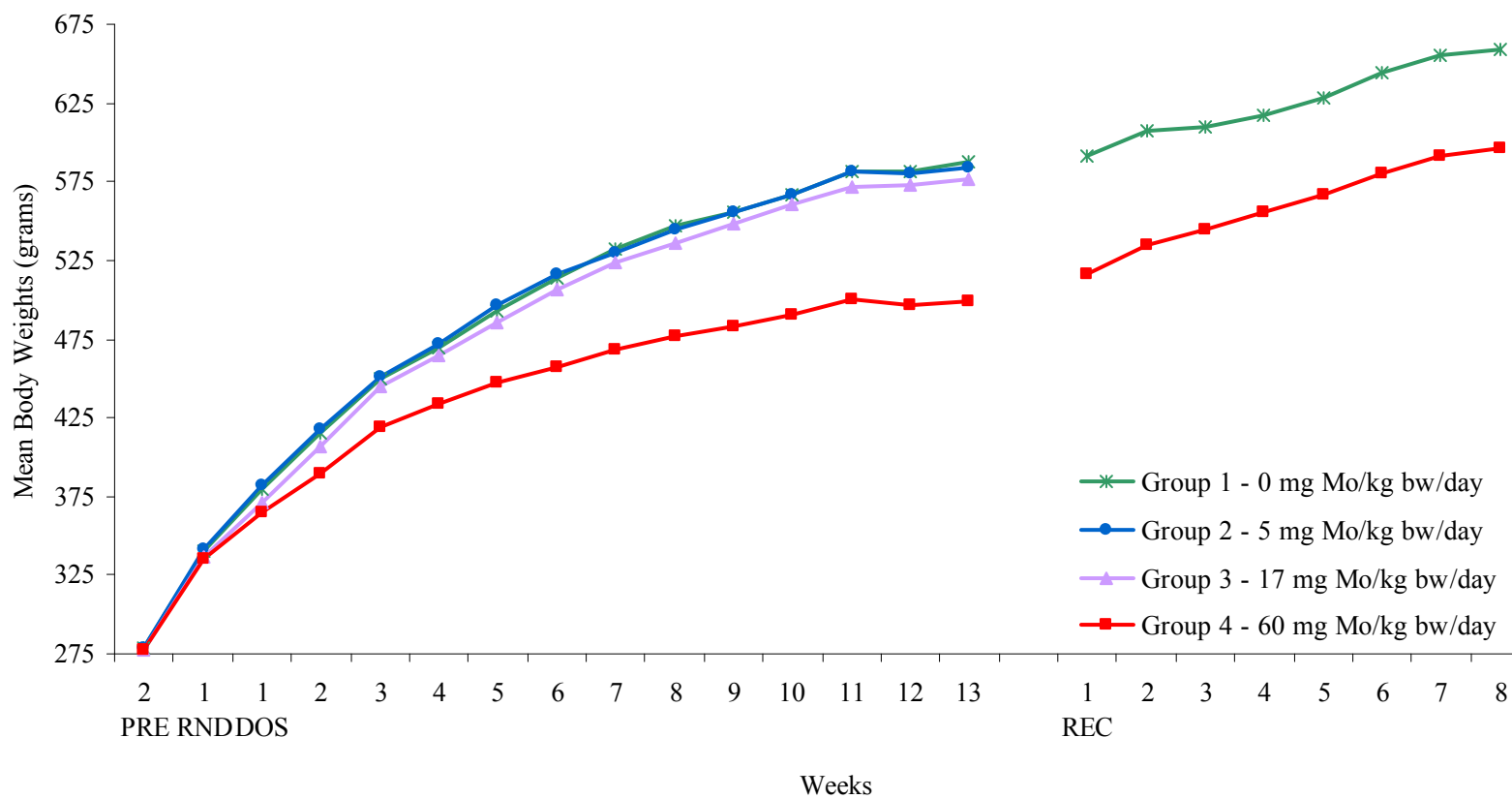
The data collection system used for collecting the in-life and post-life data divides the study into phases. The start of each phase begins with Day 1/Week1. The phases utilized on this study were:

Pretest Phase (PRE):	Begins the day the animals arrive. During this phase, animals are not being dosed and they have not been assigned their permanent identification numbers.
Randomization Phase (RND):	Begins the day the animals are sorted into groups and assigned their permanent identification numbers. Animals are not being dosed during this phase.
Dosing Phase (DOS):	Begins for each animal when it receives its first administration of test/control substance as specified in the protocol.
Recovery (REC):	Begins the day after each designated animal stops receiving its specified dose and continues until study completion.

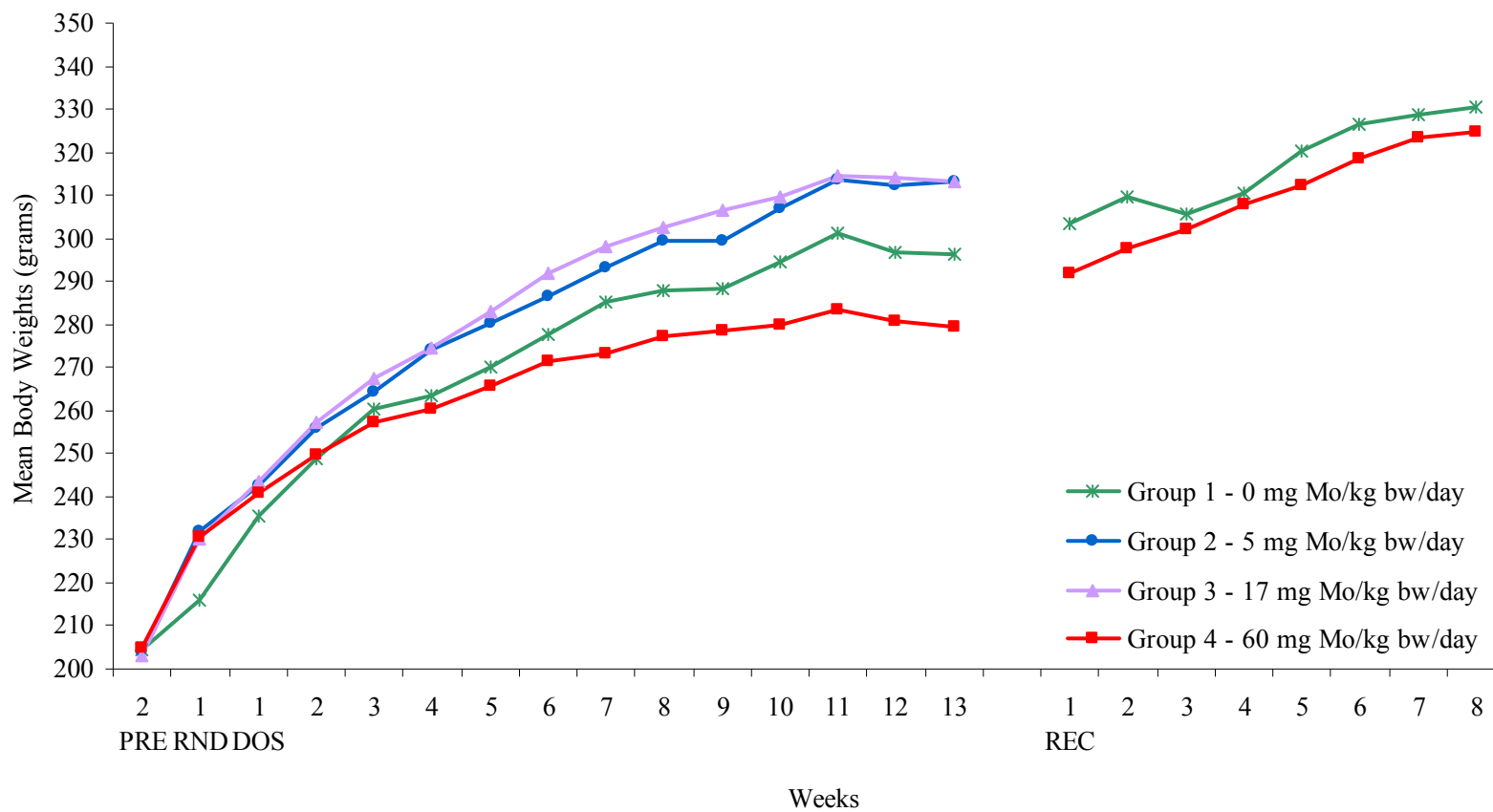
**Corresponding expected dose levels for each group were as follows:**

Group 1	-	0 mg Mo/kg bw/day
Group 2	-	5 mg Mo/kg bw/day
Group 3	-	17 mg Mo/kg bw/day
Group 4	-	60 mg Mo/kg bw/day

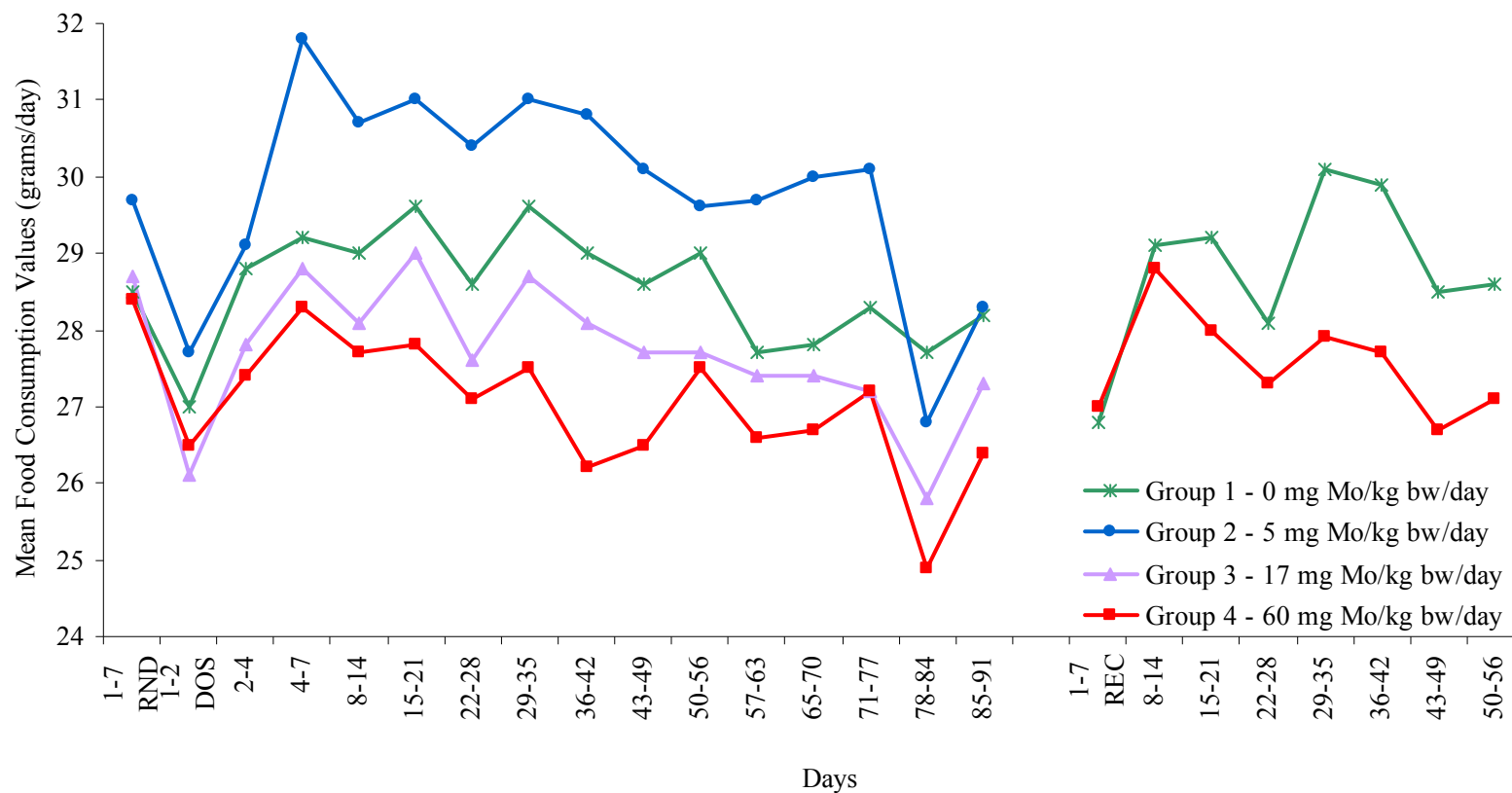
Males	Mean Body Weights (grams)	Figure 1
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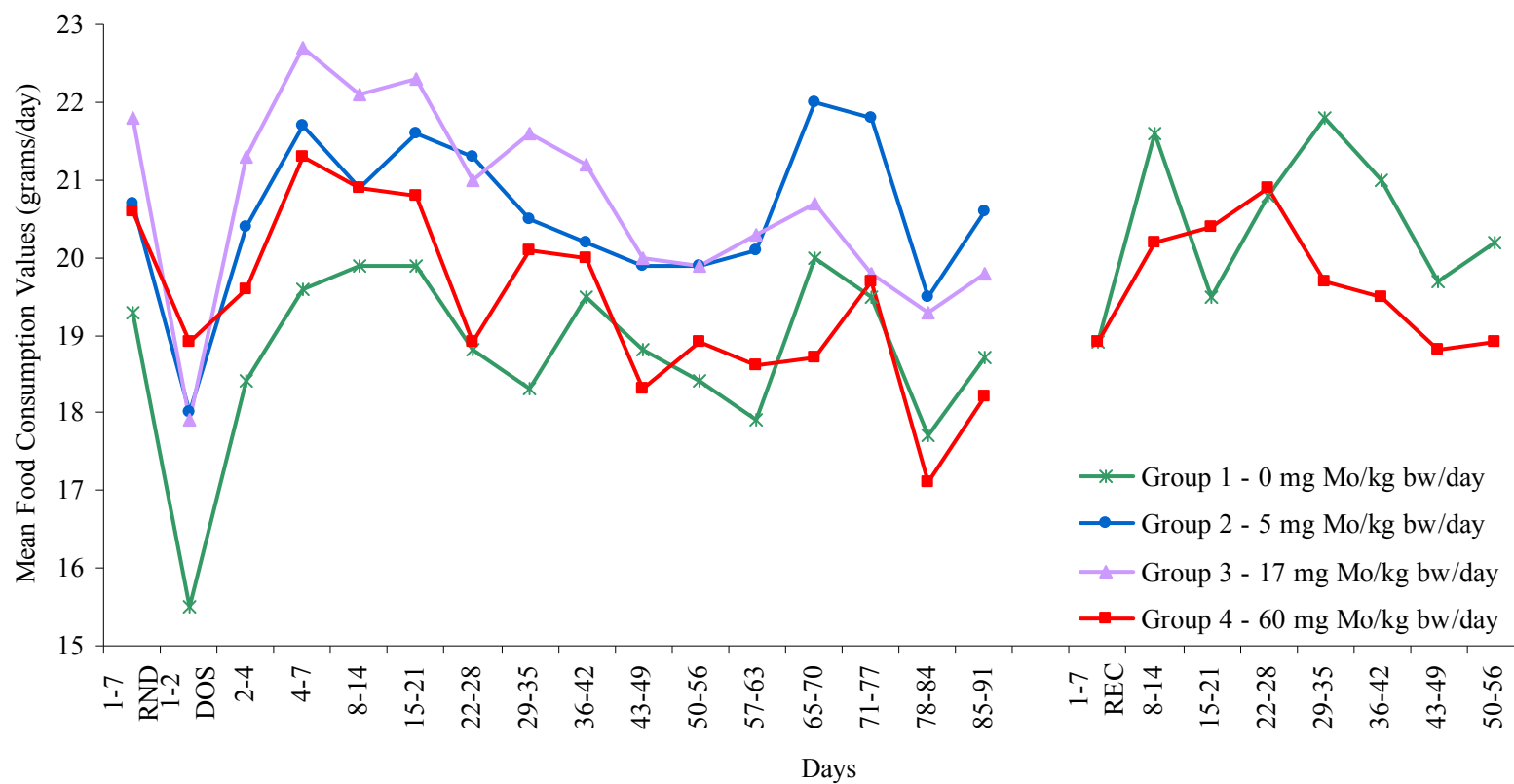
Females	Mean Body Weights (grams)	Figure 2
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Males	Mean Food Consumption Values (grams/day)	Figure 3
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Females	Mean Food Consumption Values (grams/day)	Figure 4
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	Summary of Daily Observations Preface	Table 1
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Observations were performed at least twice daily (once in the morning and once in the afternoon). Additional observations were recorded as they occurred. For summarization purposes, only time-points with animals exhibiting abnormal findings are presented. Animals were considered to be within normal limits at all other time-points.

**Corresponding expected dose levels for each group were as follows:**

Group 1	-	0 mg Mo/kg bw/day
Group 2	-	5 mg Mo/kg bw/day
Group 3	-	17 mg Mo/kg bw/day
Group 4	-	60 mg Mo/kg bw/day

**Key to Abbreviations:**

AM	=	Morning Observation
PM	=	Afternoon Observation
US	=	Unscheduled Observation

Males	Summary of Daily Observations	Table 1
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Observations	Phase	DOS											REC
		Day	15	15	16	16	17	17	18	18	42	92	
Group	Session	AM	PM	AM	PM	AM	PM	AM	PM	US	AM	PM	
Daily Observations, Chromodacryorrhea (Bi)												1	
Daily Observations, Incisor(s) Broken/Missing												1	
Daily Observations, Swollen (Head/Neck)												1	
Oral/Buccal, Incisors Maloccluded										1			

Females	Summary of Daily Observations	Table 1
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Observations	Phase	DOS											REC
		Day	15	15	16	16	17	17	18	18	42	92	
Session		AM	PM	AM	PM	AM	PM	AM	PM	US	AM	PM	
	Group												
Daily Observations, Decreased Fecal Volume	1											1	
Daily Observations, Incisors Maloccluded	2	1	1	1	1	1	1	1	1				
Daily Observations, Red Exudate (Head/Neck)	2	1		1									
Daily Observations, Swollen (Head/Neck)	2	1	1	1	1	1	1	1	1				



	Summary of Weekly Physical Examination Findings Preface	Table 2
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Number of animals examined represents the total number of animals observed during a given interval.

For summarization purposes, descriptive comments [i.e., location of scab(s) and sore(s), etc.] are not presented in this appendix. These data are contained in the study raw data if needed.

**Corresponding expected dose levels for each group were as follows:**

Group 1	-	0 mg Mo/kg bw/day
Group 2	-	5 mg Mo/kg bw/day
Group 3	-	17 mg Mo/kg bw/day
Group 4	-	60 mg Mo/kg bw/day

Males	Summary of Weekly Physical Examination Findings															Table 2
	Phase Week	PRE	DOS													REC
		3	1	2	3	4	5	6	7	8	9	10	11	12	13	1a
Observations	Group															
Examined	1	20	20	20	20	20	20	20	20	20	20	20	20	20	20	10
	2	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	3	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
	4	20	20	20	20	20	20	20	20	19	19	19	19	19	19	9
Within Normal Limits	1	20	20	18	16	16	14	14	14	13	13	13	13	13	13	7
	2	10	10	8	8	8	7	7	7	6	6	7	6	6	5	
	3	10	10	10	8	9	8	8	7	7	7	7	7	7	7	
	4	20	20	19	19	19	19	19	19	18	18	16	17	18	17	8
Dermal General, Alopecia (Head/Neck)	1															
	4															1
Dermal General, Alopecia (Limbs)	1															
	2															
	3															
	4															
Dermal General, Alopecia (Torso)	1															
	3															
Dermal General, Scab(s)	1															
	2															

Note: 1a indicates the physical examination findings from the first day of Recovery Week 1.

Males	Summary of Weekly Physical Examination Findings	Table 2
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Observations	Phase Week	DOS												REC		
		3	1	2	3	4	5	6	7	8	9	10	11	12	13	1a
Group																
Dermal General, Stains on Fur (Head/Neck)	4								1							
Dermal General, Ulceration (Head/Neck)	1				1	1	1									
General Appearance, Thin	4									1	1	1				
Ocular, Chromodacryorrhea (Unilateral)	2													1		
	4								1							
Oral/Buccal, Incisor(s) Broken/Missing	2									1				1	1	
	4											1	1			
Oral/Buccal, Incisors Maloccluded	2										1					1
	4								1	1	1					

Note: 1a indicates the physical examination findings from the first day of Recovery Week 1.

Males	Summary of Weekly Physical Examination Findings	Table 2
-------	---	---------

Observations	Phase Week	REC							
		1b	2	3	4	5	6	7	8
		Group							
Examined	1	10	10	10	10	10	10	10	10
	4	9	9	9	9	9	9	9	9
Within Normal Limits	1	7	6	8	10	8	7	7	7
	4	8	7	7	9	9	9	8	8
Dermal General, Alopecia (Head/Neck)	4	1							
Dermal General, Alopecia (Limbs)	1	3	3	2		2	3	3	3
	4		2	2				1	1
General Appearance, Swollen (Limbs/Tail)	1		1						
Oral/Buccal, Incisor(s) Broken/Missing	1		1						

Note: 1b indicates the physical examination findings from the last day of Recovery Week 1.

Females	Summary of Weekly Physical Examination Findings	Table 2
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Observations	Phase Week	DOS														REC	
		3	1	2	3	4	5	6	7	8	9	10	11	12	13	1a	
Examined	Group	1	20	20	20	20	20	20	20	20	20	20	20	20	20	20	10
		2	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
		3	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
		4	20	20	20	20	20	20	20	20	20	20	20	20	20	20	10
Within Normal Limits		1	20	19	19	19	19	19	18	19	19	19	18	19	19	18	9
		2	10	10	9	7	7	7	7	7	7	7	7	7	6	6	
		3	10	9	7	7	7	7	7	7	7	8	8	7	5	6	
		4	20	20	19	17	17	16	16	15	15	15	15	16	13	15	9
Dermal General, Alopecia (Head/Neck)		3				1											
Dermal General, Alopecia (Limbs)		1		1	1	1	1	1	1	1	1	1	1	1	1	1	1
		2			1	3	3	3	3	3	3	3	3	3	3	3	
		3		1	3	3	3	3	3	3	3	2	2	3	4	3	
		4			1	3	3	4	4	5	5	5	5	4	4	5	1
Dermal General, Alopecia (Torso)		4					1	1	1		1	1	2	2	2		
Dermal General, Scab(s)		4													1		
General Appearance, Swollen (Head/Neck)		2				1											

Note: 1a indicates the physical examination findings from the first day of Recovery Week 1.

Females	Summary of Weekly Physical Examination Findings	Table 2
---------	---	---------

	Phase Week	DOS												REC		
		3	1	2	3	4	5	6	7	8	9	10	11	12	13	1a
Observations	Group															
General Appearance, Thin	3													1	1	
	4												3			
General Appearance, Unthrifty Coat	2												1	1		
	3												1	1		
	4												1			
Ocular, Chromodacryorrhea (Unilateral)	1						1									
	2				1			1	1	1	1	1	1	1	1	
Ocular, Lacrimation (Unilateral)	2						1	1	1	1	1	1	1	1		
Oral/Buccal, Incisor(s) Broken/Missing	1										1			1		
	2											1	1	1		
Oral/Buccal, Incisors Maloccluded	2				1	1	1	1	1							

Note: 1a indicates the physical examination findings from the first day of Recovery Week 1.

Females	Summary of Weekly Physical Examination Findings	Table 2
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Observations	Phase Week	REC							
		1b	2	3	4	5	6	7	8
		Group							
Examined	1	10	10	10	10	10	10	10	10
	4	10	10	10	10	10	10	10	10
Within Normal Limits	1	9	8	7	10	9	9	9	9
	4	9	8	8	10	10	10	10	10
Dermal General, Alopecia (Limbs)	1	1	1	1		1	1	1	1
	4	1	2	2					
Dermal General, Stains on Fur (Head/Neck)	1		1	1					
Gastrointestinal, Decreased Fecal Volume	1			1					

Note: 1b indicates the physical examination findings from the last day of Recovery Week 1.

	Summary of Ophthalmoscopic Findings Preface	Table 3
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Ophthalmoscopic examinations were performed as follows: Pretest - Week 2 and Termination - Week 13. Only animals that were within normal limits at the pretest examination or found to be acceptable to be placed on study by the Veterinary Ophthalmologist were placed on test.

Pre-test Animal No.	On-test Animal No.	Finding
41	3001	Persistent hyaloids remnant, right eye
91	excluded	Focal posterior polar cataract, left eye
99	excluded	Intravitreal hemorrhage, extreme, left eye
107	excluded	Anterior uveitis, left eye

### Corresponding expected dose levels for each group were as follows:

Group 1	-	0 mg Mo/kg bw/day
Group 2	-	5 mg Mo/kg bw/day
Group 3	-	17 mg Mo/kg bw/day
Group 4	-	60 mg Mo/kg bw/day



## Ophthalmology Report

October 15, 2010

Study Director  
Huntingdon Life Sciences  
100 Mettlers Road  
P.O. Box 2360  
Somerset, NJ 08873-7378

Indirect ophthalmoscopy was performed October 15, 2010 on 128 rats. The results were recorded in the raw data. All findings were considered common ocular changes in the rat.

**HLS Study Number: 10-2225**

<u>Animal No.</u>	<u>Sex</u>	<u>Findings</u>
41	M	Persistent hyaloid remnant right eye
91	F	Focal posterior polar cataract left eye
99	F	Intravitreal hemorrhage, extreme, left eye
107	F	Anterior uveitis left eye

The following animals should be excluded from the study: 91, 99 and 107.

If you have any questions regarding this report, please do not hesitate to contact me.

Sincerely,



Michael H. Brown, DVM, MS  
Diplomate ACVO  
Consultant Veterinary Ophthalmologist  
127 South Mountain Ave  
Montclair, NJ 07042  
973-337-5580 h  
973-890-4430 w  
Muro127@aol.com

## Ophthalmology Report

January 21, 2011

Study Director  
Huntingdon Life Sciences  
100 Mettlers Road  
P.O. Box 2360  
Somerset, NJ 08873-7378

Indirect ophthalmoscopy was performed January 21, 2011 on 119 rats. The results were recorded in the raw data. All findings were considered common ocular changes in the rat and are not related to the study compound.

**HLS Study Number: 10-2225**

<u>Animal No.</u>	<u>Sex</u>	<u>Findings</u>
2005	M	Retinal degeneration left eye

If you have any questions regarding this report, please do not hesitate to contact me.

Sincerely,



Michael H. Brown, DVM, MS  
Diplomate ACVO  
Consultant Veterinary Ophthalmologist  
127 South Mountain Ave  
Montclair, NJ 07042  
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973-890-4430 w  
Muro127@aol.com

Males	Summary of Ophthalmology Observations	Table 3
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Observations	Group	Phase	
		PRE	DOS
	Week	2	13
Examined	1	20	20
	2	10	10
	3	10	10
	4	20	19
Within Normal Limits	1	20	20
	2	10	9
	3	9	10
	4	20	19
Retina, Retinal Degeneration, Left	2		1
Vitreous Body, Persistent Hyaloid Remnant, Right	3	1	

Females	Summary of Ophthalmology Observations	Table 3
---------	---------------------------------------	---------

	Group	Phase	
		PRE	DOS
		2	13
Observations			
Examined	1	20	20
	2	10	10
	3	10	10
	4	20	20
Within Normal Limits	1	20	20
	2	10	10
	3	10	10
	4	20	20

Males	Mean Body Weights (grams)												Table 4
	Phase Week	PRE 2	RND 1	DOS 1 2		3	4	5	6	7	8	9	
Group 1 - 0 mg Mo/kg bw/day													
Mean	278.2	340.8	379.6	415.2	449.2	468.9	493.0	513.3	531.9	546.8	556.2	566.1	
SD	12.20	15.49	19.45	23.46	23.49	31.45	33.81	35.98	36.81	40.43	41.89	45.57	
N	20	20	20	20	20	20	20	20	20	20	20	20	
Group 2 - 5 mg Mo/kg bw/day													
Mean	278.2	341.3	382.1	417.9	451.5	472.4	496.4	516.1	529.9	544.9	555.6	566.5	
SD	11.24	16.11	20.93	26.43	30.54	33.02	32.71	32.31	34.86	37.83	37.47	38.64	
N	10	10	10	10	10	10	10	10	10	10	10	10	
Group 3 - 17 mg Mo/kg bw/day													
Mean	277.2	336.2	370.8	407.2	444.5	464.2	485.2	506.7	523.7	536.1	547.7	560.2	
SD	10.45	17.23	21.78	24.75	30.76	36.96	38.53	38.29	39.74	40.31	40.94	43.77	
N	10	10	10	10	10	10	10	10	10	10	10	10	
Group 4 - 60 mg Mo/kg bw/day													
Mean	277.4	335.6	364.3*	389.7**	418.6***	433.6***	447.0***	456.6***	468.7***	476.8***	483.2***	490.2***	
SD	10.69	15.20	18.35	22.07	22.39	25.51	28.09	38.54	31.75	31.89	32.25	31.32	
N	20	20	20	20	20	20	20	20	19	19	19	19	

\* = p &lt; 0.05, \*\* = p &lt; 0.01, \*\*\* = p &lt; 0.001

Males	Mean Body Weights (grams)										Table 4
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Phase Week	DOS			REC							
	11	12	13	1	2	3	4	5	6	7	8

Group 1 - 0 mg Mo/kg bw/day

Mean	581.3	581.6	587.1	591.2	607.7	609.2	617.3	628.4	643.8	655.4	659.4
SD	48.70	50.26	50.54	57.60	58.45	59.27	61.14	62.87	64.77	67.77	69.35
N	20	20	20	10	10	10	10	10	10	10	10

Group 2 - 5 mg Mo/kg bw/day

Mean	582.0	580.5	583.9
SD	42.35	42.94	41.42
N	10	10	10

Group 3 - 17 mg Mo/kg bw/day

Mean	571.7	572.5	576.3
SD	45.53	46.81	47.85
N	10	10	10

Group 4 - 60 mg Mo/kg bw/day

Mean	500.4***	497.1***	498.5***	516.0**	534.9**	544.1*	555.2*	567.2*	580.3*	591.0*	596.5*
SD	31.58	30.85	32.88	33.16	33.01	34.35	34.72	35.47	34.13	33.60	35.45
N	19	19	19	9	9	9	9	9	9	9	9

\* = p < 0.05, \*\* = p < 0.01, \*\*\* = p < 0.001

Females	Mean Body Weights (grams)												Table 4
	Phase Week	PRE 2	RND 1	DOS 1 2		3	4	5	6	7	8	9	
Group 1 - 0 mg Mo/kg bw/day													
Mean	204.3	227.3	235.5	248.6	260.2	263.6	269.9	277.7	285.3	287.8	288.5	294.6	
SD	9.46	12.04	13.56	13.72	15.62	16.92	19.25	18.19	19.75	25.66	20.27	18.04	
N	20	19	20	20	20	20	20	20	20	20	20	20	
Group 2 - 5 mg Mo/kg bw/day													
Mean	204.2	232.0	242.6	255.9	264.2	274.1	280.3	286.7	293.4	299.4	299.6	307.1	
SD	9.10	13.71	17.59	17.04	25.97	21.76	26.19	22.31	25.55	26.13	26.99	27.74	
N	10	10	10	10	10	10	10	10	10	10	10	10	
Group 3 - 17 mg Mo/kg bw/day													
Mean	203.3	230.3	243.7	257.1	267.3	274.4	283.1	291.7	298.1	302.3	306.4	309.4	
SD	12.30	16.99	21.56	26.52	27.53	28.39	32.43	29.65	28.60	29.19	29.82	30.33	
N	10	10	10	10	10	10	10	10	10	10	10	10	
Group 4 - 60 mg Mo/kg bw/day													
Mean	204.7	230.4	240.7	249.5	257.4	260.5	265.9	271.3	273.1	277.0	278.4	279.8	
SD	9.58	12.53	14.52	16.08	18.11	19.58	20.76	21.07	21.36	21.93	22.48	23.20	
N	20	20	20	20	20	20	20	20	20	20	20	20	

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No statistically significant differences from control mean

Females	Mean Body Weights (grams)											Table 4
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Phase	DOS			REC							
Week	11	12	13	1	2	3	4	5	6	7	8

## Group 1 - 0 mg Mo/kg bw/day

Mean	301.0	296.7	296.1	303.2	309.6	305.7	310.4	320.2	326.7	328.7	330.6
SD	19.48	21.17	20.53	26.58	32.23	23.29	29.01	33.92	35.40	34.09	35.68
N	20	20	20	10	10	10	10	10	10	10	10

## Group 2 - 5 mg Mo/kg bw/day

Mean	313.5	312.4	313.2
SD	28.02	30.45	32.78
N	10	10	10

## Group 3 - 17 mg Mo/kg bw/day

Mean	314.5	314.0	313.2
SD	32.28	31.73	32.75
N	10	10	10

## Group 4 - 60 mg Mo/kg bw/day

Mean	283.4*	280.8	279.5	291.9	297.6	302.2	308.0	312.2	318.3	323.2	324.9
SD	24.77	23.27	25.20	26.81	25.94	28.61	31.95	31.24	30.21	34.57	36.06
N	20	20	20	10	10	10	10	10	10	10	10

\* = p &lt; 0.05



Males	Mean Body Weight Change from Baseline (RND 7) (grams)													Table 5
	Phase Week	DOS 1	2	3	4	5	6	7	8	9	10	11	12	
Group 1 - 0 mg Mo/kg bw/day														
Mean	38.9	74.5	108.5	128.2	152.3	172.5	191.2	206.0	215.4	225.3	240.5	240.8	246.3	
SD	5.62	10.63	12.73	21.18	22.68	24.38	25.65	28.77	30.84	34.62	37.35	38.69	38.97	
N	20	20	20	20	20	20	20	20	20	20	20	20	20	
Group 2 - 5 mg Mo/kg bw/day														
Mean	40.7	76.5	110.2	131.1	155.0	174.8	188.6	203.6	214.2	225.1	240.6	239.2	242.6	
SD	6.17	12.97	16.91	19.95	21.13	21.53	25.49	28.69	28.32	30.40	34.87	38.53	37.62	
N	10	10	10	10	10	10	10	10	10	10	10	10	10	
Group 3 - 17 mg Mo/kg bw/day														
Mean	34.6	71.0	108.3	128.0	149.0	170.5	187.5	199.8	211.5	224.0	235.5	236.3	240.1	
SD	6.19	9.49	15.48	21.57	24.02	24.04	25.83	26.51	27.01	29.89	31.82	32.51	33.85	
N	10	10	10	10	10	10	10	10	10	10	10	10	10	
Group 4 - 60 mg Mo/kg bw/day														
Mean	28.6***	54.1***	83.0***	98.0***	111.4***	121.0***	134.6***	142.7***	149.1***	156.1***	166.3***	163.1***	164.4***	
SD	6.43	12.40	13.08	16.34	18.89	31.53	27.03	27.03	27.54	27.48	28.27	28.72	30.05	
N	20	20	20	20	20	20	19	19	19	19	19	19	19	

\*\*\* = p &lt; 0.001

Males	Mean Body Weight Change from Baseline (DOS 91) (grams)								Table 5
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Phase	REC							
Week	1	2	3	4	5	6	7	8

## Group 1 - 0 mg Mo/kg bw/day

Mean	7.7	24.2	25.8	33.8	44.9	60.3	71.9	75.9
SD	7.85	7.61	10.21	10.41	14.35	15.50	17.43	21.36
N	10	10	10	10	10	10	10	10

## Group 4 - 60 mg Mo/kg bw/day

Mean	24.5***	43.4***	52.6***	63.7***	75.7***	88.8**	99.5**	105.0**
SD	8.19	9.52	11.84	13.99	16.89	18.51	19.79	20.61
N	9	9	9	9	9	9	9	9

\*\* = p &lt; 0.01, \*\*\* = p &lt; 0.001

Females	Mean Body Weight Change from Baseline (RND 7) (grams)													Table 5
	Phase Week	DOS 1	2	3	4	5	6	7	8	9	10	11	12	
Group 1 - 0 mg Mo/kg bw/day														
Mean	8.6	21.7	33.3	37.1	43.5	50.9	58.3	61.0	62.0	67.9	74.2	70.0	69.4	
SD	6.00	6.12	7.94	8.10	12.37	11.91	12.34	19.48	15.14	12.65	14.17	15.16	15.07	
N	19	19	19	19	19	19	19	19	19	19	19	19	19	
Group 2 - 5 mg Mo/kg bw/day														
Mean	10.5	23.9	32.1	42.0	48.2	54.7	61.4	67.4	67.6	75.0	81.5	80.4	81.2	
SD	5.84	7.19	16.15	11.11	15.82	13.39	15.39	15.42	16.31	17.28	16.97	18.76	21.63	
N	10	10	10	10	10	10	10	10	10	10	10	10	10	
Group 3 - 17 mg Mo/kg bw/day														
Mean	13.4	26.7	37.0	44.1	52.7	61.4	67.7	71.9	76.1	79.1	84.2	83.6	82.9	
SD	6.82	11.48	12.45	13.03	16.64	15.01	13.89	14.39	14.95	15.88	18.24	17.75	19.37	
N	10	10	10	10	10	10	10	10	10	10	10	10	10	
Group 4 - 60 mg Mo/kg bw/day														
Mean	10.4	19.1	27.0	30.2	35.5	40.9*	42.8**	46.7*	48.0**	49.4***	53.0***	50.5***	49.2**	
SD	7.05	9.38	11.36	12.03	14.15	14.42	15.27	15.64	16.71	17.74	18.94	18.02	20.29	
N	20	20	20	20	20	20	20	20	20	20	20	20	20	

\* = p &lt; 0.05, \*\* = p &lt; 0.01, \*\*\* = p &lt; 0.001

Females	Mean Body Weight Change from Baseline (DOS 91) (grams)								Table 5
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Phase	REC							
Week	1	2	3	4	5	6	7	8

## Group 1 - 0 mg Mo/kg bw/day

Mean	8.0	14.4	10.6	15.2	25.0	31.6	33.5	35.4
SD	3.86	9.14	9.70	4.84	9.48	11.63	10.70	11.34
N	10	10	10	10	10	10	10	10

## Group 4 - 60 mg Mo/kg bw/day

Mean	12.8*	18.5	23.1**	28.9*	33.1	39.2	44.1	45.8
SD	4.10	7.62	9.36	15.18	16.20	15.69	15.11	18.51
N	10	10	10	10	10	10	10	10

\* =  $p < 0.05$ , \*\* =  $p < 0.01$

Males	Mean Body Weight Change from Interval to Interval (grams)												Table 6
	Phase Week	PRE-RND 2-1	RND-DOS 1-1	DOS									
			1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10		
Group 1 - 0 mg Mo/kg bw/day													
Mean	62.6	38.9	35.6	34.0	19.7	24.1	20.3	18.6	14.9	9.4	9.9	15.2	
SD	5.69	5.62	5.83	8.06	12.12	6.69	5.43	4.36	5.21	5.53	4.99	5.58	
N	20	20	20	20	20	20	20	20	20	20	20	20	
Group 2 - 5 mg Mo/kg bw/day													
Mean	63.2	40.7	35.8	33.6	20.9	23.9	19.8	13.8	15.0	10.7	10.9	15.5	
SD	7.24	6.17	7.29	6.51	5.25	5.88	2.65	5.60	4.52	2.54	4.71	5.83	
N	10	10	10	10	10	10	10	10	10	10	10	10	
Group 3 - 17 mg Mo/kg bw/day													
Mean	59.1	34.6	36.4	37.3	19.7	21.0	21.5	17.0	12.4	11.6	12.5	11.5	
SD	8.81	6.19	5.60	6.83	7.26	4.93	2.92	4.17	2.30	3.93	3.82	3.62	
N	10	10	10	10	10	10	10	10	10	10	10	10	
Group 4 - 60 mg Mo/kg bw/day													
Mean	58.2	28.6***	25.4***	29.0*	15.0	13.4***	9.6***	16.2	8.1***	6.4	7.0	10.2**	
SD	7.59	6.43	7.85	6.39	8.91	10.89	20.72	6.70	6.11	4.53	5.45	4.18	
N	20	20	20	20	20	20	20	19	19	19	19	19	

\* = p &lt; 0.05, \*\* = p &lt; 0.01, \*\*\* = p &lt; 0.001

Males	Mean Body Weight Change from Interval to Interval (grams)										Table 6
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Phase	DOS		DOS-REC	REC							
Week	11-12	12-13	13-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	

## Group 1 - 0 mg Mo/kg bw/day

Mean	0.3	5.5	7.7	16.5	1.6	8.0	11.1	15.4	11.6	4.0
SD	7.17	5.33	7.85	4.96	4.50	4.00	5.48	4.40	7.35	6.51
N	20	20	10	10	10	10	10	10	10	10

## Group 2 - 5 mg Mo/kg bw/day

Mean	-1.4	3.4
SD	10.31	7.03
N	10	10

## Group 3 - 17 mg Mo/kg bw/day

Mean	0.8	3.8
SD	5.33	3.39
N	10	10

## Group 4 - 60 mg Mo/kg bw/day

Mean	-3.3	1.4*	24.5***	18.9	9.1**	11.1	12.0	13.1	10.7	5.6
SD	4.90	4.80	8.19	4.04	5.47	3.95	4.17	4.30	2.45	3.41
N	19	19	9	9	9	9	9	9	9	9

\* = p &lt; 0.05, \*\* = p &lt; 0.01, \*\*\* = p &lt; 0.001

Females	Mean Body Weight Change from Interval to Interval (grams)												Table 6
	Phase Week	PRE-RND 2-1	RND-DOS 1-1	DOS									
			1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	
Group 1 - 0 mg Mo/kg bw/day													
Mean	23.1	8.6	13.1	11.6	3.4	6.2	7.8	7.6	2.5	0.7	6.1	6.4	
SD	5.62	6.00	6.43	5.19	3.77	7.12	6.32	6.56	12.42	10.92	7.85	3.64	
N	19	19	20	20	20	20	20	20	20	20	20	20	
Group 2 - 5 mg Mo/kg bw/day													
Mean	27.9	10.5	13.4	8.2	9.9*	6.2	6.4	6.7	6.0	0.2	7.4	6.5	
SD	6.67	5.84	7.43	13.07	8.67	7.75	8.34	9.18	6.69	4.45	5.73	4.62	
N	10	10	10	10	10	10	10	10	10	10	10	10	
Group 3 - 17 mg Mo/kg bw/day													
Mean	27.1	13.4	13.3	10.3	7.1	8.6	8.7	6.3	4.2	4.1	3.0	5.1	
SD	8.42	6.82	7.47	4.25	6.52	5.20	5.61	3.30	3.70	4.59	4.31	5.52	
N	10	10	10	10	10	10	10	10	10	10	10	10	
Group 4 - 60 mg Mo/kg bw/day													
Mean	25.7	10.4	8.8	7.9	3.2	5.4	5.3	1.9**	3.9	1.4	1.4*	3.5	
SD	7.01	7.05	6.10	7.55	6.62	5.27	4.82	5.91	5.47	4.49	4.84	5.41	
N	20	20	20	20	20	20	20	20	20	20	20	20	

\* = p &lt; 0.05, \*\* = p &lt; 0.01

Females	Mean Body Weight Change from Interval to Interval (grams)										Table 6
	Phase Week	DOS		DOS-REC	REC						
	11-12	12-13	13-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	
Group 1 - 0 mg Mo/kg bw/day											
Mean	-4.3	-0.6	8.0	6.4	-3.9	4.6	9.8	6.6	1.9	2.0	
SD	4.93	4.96	3.86	7.57	13.50	9.61	6.49	3.15	2.77	5.58	
N	20	20	10	10	10	10	10	10	10	10	
Group 2 - 5 mg Mo/kg bw/day											
Mean	-1.1	0.8									
SD	4.03	4.83									
N	10	10									
Group 3 - 17 mg Mo/kg bw/day											
Mean	-0.6	-0.8									
SD	6.81	4.20									
N	10	10									
Group 4 - 60 mg Mo/kg bw/day											
Mean	-2.5	-1.3	12.8*	5.7	4.7	5.8	4.2*	6.2	4.9	1.7	
SD	4.67	4.40	4.10	6.16	8.48	7.21	3.03	3.68	8.54	6.58	
N	20	20	10	10	10	10	10	10	10	10	

\* = p &lt; 0.05



Males	Mean Food Consumption Values (grams/day)												Table 7
	Phase Day	RND 1-7	DOS 1-2	2-4	4-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	
Group 1 - 0 mg Mo/kg bw/day													
Mean	28.5	27.0	28.8	29.2	29.0	29.6	28.6	29.6	29.0	28.6	29.0	27.7	
SD	2.20	2.02	2.11	2.25	1.95	2.09	2.10	1.97	2.18	2.12	2.28	2.49	
N	20	20	20	20	20	20	20	20	20	20	20	20	
Group 2 - 5 mg Mo/kg bw/day													
Mean	29.7	27.7	29.1	31.8	30.7	31.0	30.4	31.0	30.8	30.1	29.6	29.7	
SD	2.19	2.21	2.36	3.88	2.44	2.09	2.02	2.49	2.78	2.72	1.92	2.32	
N	10	10	10	10	10	10	10	10	10	10	10	10	
Group 3 - 17 mg Mo/kg bw/day													
Mean	28.7	26.1	27.8	28.8	28.1	29.0	27.6	28.7	28.1	27.7	27.7	27.4	
SD	3.93	3.33	2.31	2.20	2.31	2.69	2.85	2.40	2.01	2.03	1.76	2.21	
N	10	10	10	10	10	10	10	10	10	10	10	10	
Group 4 - 60 mg Mo/kg bw/day													
Mean	28.4	26.5	27.4	28.3	27.7	27.8*	27.1*	27.5**	26.2**	26.5*	27.5	26.6	
SD	2.13	2.49	1.98	4.02	2.98	2.68	2.33	2.76	5.44	3.23	3.22	2.99	
N	20	20	20	18	20	20	20	20	20	19	19	19	

\* = p &lt; 0.05, \*\* = p &lt; 0.01

Males	Mean Food Consumption Values (grams/day)												Table 7
	Phase Day	DOS				REC							
	65-70	71-77	78-84	85-91	1-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	
Group 1 - 0 mg Mo/kg bw/day													
Mean	27.8	28.3	27.7	28.2	26.8	29.1	29.2	28.1	30.1	29.9	28.5	28.6	
SD	2.25	2.71	2.59	2.47	2.75	2.69	2.27	2.28	2.51	2.79	2.69	2.79	
N	20	20	20	20	10	10	10	10	10	10	10	10	
Group 2 - 5 mg Mo/kg bw/day													
Mean	30.0	30.1	26.8	28.3									
SD	2.91	2.11	2.72	2.11									
N	10	10	10	10									
Group 3 - 17 mg Mo/kg bw/day													
Mean	27.4	27.2	25.8	27.3									
SD	2.25	2.23	2.32	1.84									
N	10	10	10	10									
Group 4 - 60 mg Mo/kg bw/day													
Mean	26.7	27.2	24.9**	26.4*	27.0	28.8	28.0	27.3	27.9*	27.7*	26.7	27.1	
SD	2.30	2.61	2.70	2.42	1.23	1.33	1.28	1.10	1.30	1.13	1.04	1.00	
N	19	19	19	19	9	9	9	9	9	9	9	9	

\* = p &lt; 0.05, \*\* = p &lt; 0.01

Females	Mean Food Consumption Values (grams/day)												Table 7
	Phase Day	RND 1-7	DOS 1-2	2-4	4-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	
Group 1 - 0 mg Mo/kg bw/day													
Mean	19.3	15.5	18.4	19.6	19.9	19.9	18.8	18.3	19.5	18.8	18.4	17.9	
SD	1.36	3.99	2.06	2.27	1.87	1.92	4.45	1.72	3.03	2.43	2.74	3.12	
N	20	20	20	20	20	20	20	20	20	20	20	20	
Group 2 - 5 mg Mo/kg bw/day													
Mean	20.7*	18.0	20.4	21.7	20.9	21.6	21.3	20.5*	20.2	19.9	19.9	20.1	
SD	1.82	2.86	1.76	4.59	2.34	4.72	3.18	1.99	2.15	2.29	1.87	2.00	
N	10	10	10	10	10	10	10	10	10	10	10	10	
Group 3 - 17 mg Mo/kg bw/day													
Mean	21.8*	17.9	21.3	22.7	22.1	22.3	21.0	21.6*	21.2	20.0	19.9	20.3	
SD	4.64	4.88	3.32	6.18	5.84	3.92	4.03	3.65	2.86	3.24	2.45	2.08	
N	10	10	10	10	10	10	10	10	10	10	10	10	
Group 4 - 60 mg Mo/kg bw/day													
Mean	20.6*	18.9*	19.6*	21.3	20.9	20.8	18.9	20.1*	20.0	18.3	18.9	18.6	
SD	2.25	6.05	2.53	4.30	5.04	4.80	4.25	4.53	4.72	3.13	3.21	2.58	
N	20	20	20	20	20	20	20	20	20	20	20	20	

\* = p &lt; 0.05

Females	Mean Food Consumption Values (grams/day)												Table 7
	Phase Day	DOS				REC							
	65-70	71-77	78-84	85-91	1-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	
Group 1 - 0 mg Mo/kg bw/day													
Mean	20.0	19.5	17.7	18.7	18.9	21.6	19.5	20.8	21.8	21.0	19.7	20.2	
SD	2.71	2.12	1.74	1.57	1.73	3.20	1.96	1.93	2.28	1.61	1.51	2.14	
N	20	20	19	20	10	10	10	10	10	10	10	10	
Group 2 - 5 mg Mo/kg bw/day													
Mean	22.0	21.8	19.5	20.6									
SD	3.91	3.22	2.57	3.00									
N	10	10	10	10									
Group 3 - 17 mg Mo/kg bw/day													
Mean	20.7	19.8	19.3	19.8									
SD	2.04	2.19	3.08	2.46									
N	10	10	10	10									
Group 4 - 60 mg Mo/kg bw/day													
Mean	18.7	19.7	17.1	18.2	18.9	20.2	20.4	20.9	19.7*	19.5	18.8	18.9	
SD	2.29	5.19	1.98	2.46	1.29	1.49	2.03	2.98	2.09	2.37	2.39	1.98	
N	20	20	19	18	10	10	10	10	10	10	10	10	

\* = p &lt; 0.05

Males		Mean Test Substance Intake Values (mg Mo/kg bw/day)											Table 8
Animal Number	Phase Day	DOS 1-2	2-4	4-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	57-63	65-70
Group 2 - 5 mg Mo/kg bw/day													
Mean		4.9	5.1	5.0	4.6	4.6	4.5	4.3	4.6	4.4	4.5	4.5	4.6
SD		0.29	0.27	0.75	0.29	0.27	0.38	0.43	0.56	0.54	0.44	0.52	0.66
N		10	10	10	10	10	10	10	10	10	10	10	10
Group 3 - 17 mg Mo/kg bw/day													
Mean		16.1	17.2	16.2	15.0	15.1	14.3	14.2	14.6	13.9	15.3	14.8	15.0
SD		1.43	0.78	0.84	0.56	0.73	0.54	0.72	0.72	0.60	0.60	0.70	0.59
N		10	10	10	10	10	10	10	10	10	10	10	10
Group 4 - 60 mg Mo/kg bw/day													
Mean		57.9	60.0	57.0	55.4	53.3	53.0	52.1	51.7	51.3	57.9	55.3	55.5
SD		4.37	3.23	5.55	3.30	3.23	2.55	2.90	8.85	3.84	5.98	4.04	3.36
N		20	20	18	20	20	20	20	20	19	19	19	19

Males	Mean Test Substance Intake Values (mg Mo/kg bw/day)	Table 8
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Animal Number	Phase	DOS			
	Day	71-77	78-84	85-91	1-91 <sup>a</sup>

## Group 2 - 5 mg Mo/kg bw/day

Mean	4.5	4.0	4.2	4.5
SD	0.33	0.31	0.28	0.35
N	10	10	10	10

## Group 3 - 17 mg Mo/kg bw/day

Mean	14.6	14.5	15.3	15.1
SD	0.64	0.79	0.76	0.45
N	10	10	10	10

## Group 4 - 60 mg Mo/kg bw/day

Mean	55.4	50.7	53.6	54.8
SD	3.55	4.74	3.62	2.96
N	19	19	19	20

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<sup>a</sup>Represents the average test substance intake during the treatment period.



Females	Mean Test Substance Intake Values (mg Mo/kg bw/day)	Table 8
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Animal Number	Phase Day	DOS			
		71-77	78-84	85-91	1-91 <sup>a</sup>

## Group 2 - 5 mg Mo/kg bw/day

Mean	6.0	5.4	5.7	5.4
SD	0.80	0.61	0.65	0.50
N	10	10	10	10

## Group 3 - 17 mg Mo/kg bw/day

Mean	19.4	19.8	20.4	19.0
SD	1.28	2.42	1.24	1.23
N	10	10	10	10

## Group 4 - 60 mg Mo/kg bw/day

Mean	70.9	62.1	66.5	65.2
SD	16.31	8.03	8.82	9.21
N	20	19	18	20

---

<sup>a</sup>Represents the average test substance intake during the treatment period.



Males		Mean Food Conversion Efficiency Values (percent, %)											Table 9
Animal Number	Phase Day	RND 1-7	DOS 1-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	57-63	64-70	71-77
Group 1 - 0 mg Mo/kg bw/day													
Mean		36.8	22.5	20.4	19.1	11.2	13.5	11.6	10.8	8.5	5.5	7.0	8.8
SD		3.66	2.55	2.65	4.25	7.38	3.34	2.70	2.23	2.70	2.94	3.33	2.81
N		20	20	20	20	20	20	20	20	20	20	20	20
Group 2 - 5 mg Mo/kg bw/day													
Mean		35.5	22.5	19.4	18.1	11.4	12.9	10.8	7.6	8.5	6.0	7.3	8.5
SD		3.45	3.27	3.09	3.40	2.60	2.87	1.94	2.83	2.55	1.51	3.16	2.78
N		10	10	10	10	10	10	10	10	10	10	10	10
Group 3 - 17 mg Mo/kg bw/day													
Mean		34.4	20.5	21.6	21.3	11.7	12.2	12.8	10.2	7.5	7.1	9.0	7.0
SD		3.91	2.77	2.75	2.95	3.22	2.46	2.10	2.33	1.53	2.22	2.42	2.02
N		10	10	10	10	10	10	10	10	10	10	10	10
Group 4 - 60 mg Mo/kg bw/day													
Mean		34.1*	16.7***	15.1***	17.5	9.1*	8.1***	-0.5**	10.5	4.8***	4.0	5.2	6.4**
SD		3.49	2.12	3.84	4.42	5.20	6.48	41.23	6.05	3.50	2.75	4.18	2.67
N		20	18	20	20	20	20	20	19	19	19	19	19

\* = p &lt; 0.05, \*\* = p &lt; 0.01, \*\*\* = p &lt; 0.001

Males		Mean Food Conversion Efficiency Values (percent, %)										Table 9
Animal Number	Phase Day	DOS		REC								
		78-84	85-91	1-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	
Group 1 - 0 mg Mo/kg bw/day												
Mean		0.0	3.3	4.5	9.4	0.7	4.5	6.0	8.2	7.3	1.6	
SD		4.24	3.11	4.53	2.63	2.68	2.28	2.86	1.96	3.79	3.28	
N		20	20	10	10	9	9	9	9	9	9	
Group 2 - 5 mg Mo/kg bw/day												
Mean		-1.3	2.0									
SD		6.53	4.16									
N		10	10									
Group 3 - 17 mg Mo/kg bw/day												
Mean		0.4	2.3									
SD		3.32	2.05									
N		10	10									
Group 4 - 60 mg Mo/kg bw/day												
Mean		-2.2	0.7*	15.0***	11.0	5.4**	6.8*	7.2	7.9	6.7	3.4	
SD		3.21	3.03	4.73	2.19	3.17	2.30	2.44	2.59	1.71	1.93	
N		19	19	9	9	9	9	9	9	9	9	

\* =  $p < 0.05$ , \*\* =  $p < 0.01$ , \*\*\* =  $p < 0.001$

Females		Mean Food Conversion Efficiency Values (percent, %)											Table 9
Animal Number	Phase Day	RND 1-7	DOS 1-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	57-63	64-70	71-77
Group 1 - 0 mg Mo/kg bw/day													
Mean		19.9	7.7	10.9	9.7	2.9	5.5	6.8	6.4	1.0	2.0	5.7	5.4
SD		4.20	5.33	5.22	4.27	3.18	6.63	5.19	4.84	12.87	10.81	6.43	2.96
N		19	19	20	20	20	20	20	20	20	20	20	20
Group 2 - 5 mg Mo/kg bw/day													
Mean		22.4	8.6	10.4	4.8	8.4*	4.8	5.4	5.2	5.0	0.3	6.5	4.8
SD		4.73	4.72	4.83	12.22	7.34	5.98	6.57	6.95	5.57	3.60	4.68	3.26
N		10	10	10	10	10	10	10	10	10	10	10	10
Group 3 - 17 mg Mo/kg bw/day													
Mean		20.6	10.0	9.8	8.0	5.3	6.3	7.1	5.4	3.5	3.2	2.7	4.0
SD		5.07	3.88	5.92	3.52	4.32	3.52	5.21	2.92	2.93	3.68	4.25	4.36
N		10	10	10	10	10	10	10	10	10	10	10	10
Group 4 - 60 mg Mo/kg bw/day													
Mean		20.7	8.5	6.9*	5.9*	3.0	4.4	4.6	1.6**	3.6	1.2	1.4*	2.8
SD		4.95	5.67	5.05	5.72	5.42	4.50	4.35	5.22	4.92	3.94	5.16	4.78
N		20	20	20	20	20	20	20	20	20	20	20	20

\* = p &lt; 0.05, \*\* = p &lt; 0.01

Females		Mean Food Conversion Efficiency Values (percent, %)										Table 9
Animal Number	Phase Day	DOS		REC								
		78-84	85-91	1-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	
Group 1 - 0 mg Mo/kg bw/day												
Mean		-4.0	-0.5	6.9	4.5	-4.1	3.4	7.2	5.1	1.6	1.3	
SD		4.78	4.30	3.13	4.69	14.04	6.48	4.32	2.32	2.22	4.36	
N		19	20	10	10	10	10	10	10	10	10	
Group 2 - 5 mg Mo/kg bw/day												
Mean		-1.0	0.4									
SD		3.30	3.94									
N		10	10									
Group 3 - 17 mg Mo/kg bw/day												
Mean		-0.5	-0.9									
SD		6.00	3.78									
N		10	10									
Group 4 - 60 mg Mo/kg bw/day												
Mean		-2.8	-1.4	11.2**	4.5	3.5	4.2	3.4*	5.1	4.0	1.1	
SD		4.98	4.62	3.34	4.70	5.96	5.19	2.42	2.74	6.94	5.72	
N		19	18	10	10	10	10	10	10	10	10	

\* = p &lt; 0.05, \*\* = p &lt; 0.01

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	Summary of Clinical Pathology Data Clinical Pathology Report	Table 10
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## 1. CLINICAL PATHOLOGY

### 1.1. HEMATOLOGY

There were no test article-related hematologic findings.

All changes, statistically significant or otherwise, were not considered to be test article related because they were within normal biological variability or secondary to analytical artifacts (platelet clumping).

### 1.2. COAGULATION

Marginal ( $\leq 1$ -second) statistically significant and not dose related shorter prothrombin times (PT) were noted in males receiving  $\geq 5$  mg Mo/kg bw/day. These changes were not considered to be related to the administration of the test substance because they were marginal, not dose-related and not observed in females. No changes were seen for activated partial thromboplastin time (APTT).

### 1.3. CLINICAL CHEMISTRY

There were no test article-related clinical chemistry changes.

All changes, including statistically significant decreases in uric acid and creatinine in females, but not in males, and total protein and calcium in males, were not considered to be test article-related because they were small in magnitude, not dose related, due to outliers in control animals, and/or were consistent with normal biological variability.



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Associate Director, Clinical Pathology

24. Oct 11

Date

	Summary of Clinical Pathology Data Mean Hematology Values Preface	Table 10
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Abbreviation	Parameter	Reporting Units
HGB	Hemoglobin Concentration	g/dL
HCT	Hematocrit	%
RBC	Erythrocyte Count	$10^6/\mu\text{L}$
RETIC	Absolute Reticulocyte Count	$10^9/\text{L}$
PLT	Platelet Count	$10^3/\mu\text{L}$
MCV	Mean Corpuscular Volume	fL
MCH	Mean Corpuscular Hemoglobin	pg
MCHC	Mean Corpuscular Hemoglobin Concentration	g/dL
RDW	Red Cell Distribution Width	%
WBC	Total Leukocyte Count	$10^3/\mu\text{L}$
ANEU	Absolute Neutrophils	$10^3/\mu\text{L}$
ALYM	Absolute Lymphocytes	$10^3/\mu\text{L}$
AMONO	Absolute Monocytes	$10^3/\mu\text{L}$
AEOS	Absolute Eosinophils	$10^3/\mu\text{L}$
ABASO	Absolute Basophils	$10^3/\mu\text{L}$
ALUC	Absolute Large Unstained Cells	$10^3/\mu\text{L}$

Males	Summary of Clinical Pathology Data Mean Hematology Values										Table 10
Occasion Termination	HGB g/dL	HCT %	RBC x10 <sup>6</sup> /uL	RETIC x10 <sup>9</sup> /L	PLT x10 <sup>3</sup> /uL	MCV fL	MCH pg	MCHC g/dL	RDW %	WBC x10 <sup>3</sup> /uL	
Group 1 - 0 mg Mo/kg bw/day											
Mean	15.9	49.5	8.76	219.5	904	56.5	18.1	32.1	14.1	8.01	
SD	0.80	2.49	0.397	36.96	153.0	1.27	0.40	0.87	0.79	0.600	
N	8	8	8	8	8	8	8	8	8	8	
Group 2 - 5 mg Mo/kg bw/day											
Mean	16.1	50.1	9.09	210.5	865	55.2	17.8	32.2	14.0	8.81	
SD	0.82	2.28	0.556	52.80	238.2	1.50	0.70	0.68	1.18	2.573	
N	9	9	9	9	9	9	9	9	9	9	
Group 3 - 17 mg Mo/kg bw/day											
Mean	16.0	49.7	8.96	228.6	952	55.6	17.8	32.1	14.3	8.35	
SD	0.78	1.95	0.426	32.19	138.4	1.43	0.59	0.44	1.39	2.139	
N	9	9	9	9	9	9	9	9	9	9	
Group 4 - 60 mg Mo/kg bw/day											
Mean	16.6	51.9	9.13	208.4	660*	56.8	18.2	32.0	14.8	7.63	
SD	0.98	3.33	0.373	41.29	252.3	2.12	0.71	0.48	1.12	0.943	
N	8	8	8	8	8	8	8	8	8	8	

\* = p &lt; 0.05



Males	Summary of Clinical Pathology Data Mean Hematology Values						Table 10
Occasion Termination	ANEU x10 <sup>3</sup> /uL	ALYM x10 <sup>3</sup> /uL	AMONO x10 <sup>3</sup> /uL	AEOS x10 <sup>3</sup> /uL	ABASO x10 <sup>3</sup> /uL	ALUC x10 <sup>3</sup> /uL	
Group 1 - 0 mg Mo/kg bw/day							
Mean	1.32	6.30	0.13	0.21	0.02	0.03	
SD	0.491	0.768	0.028	0.146	0.011	0.013	
N	8	8	8	8	8	8	
Group 2 - 5 mg Mo/kg bw/day							
Mean	2.06	6.32	0.23	0.14	0.03	0.04	
SD	2.252	1.669	0.130	0.073	0.023	0.020	
N	9	9	9	9	9	8	
Group 3 - 17 mg Mo/kg bw/day							
Mean	1.30	6.66	0.19	0.14	0.02	0.04	
SD	0.332	1.706	0.087	0.043	0.010	0.024	
N	9	9	9	9	9	9	
Group 4 - 60 mg Mo/kg bw/day							
Mean	1.24	6.02	0.14	0.20	0.02	0.02	
SD	0.486	0.791	0.090	0.220	0.009	0.010	
N	8	8	8	8	8	7	

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No statistically significant differences from control mean

Females	Summary of Clinical Pathology Data Mean Hematology Values										Table 10
	Occasion Termination	HGB g/dL	HCT %	RBC x10 <sup>6</sup> /uL	RETIC x10 <sup>9</sup> /L	PLT x10 <sup>3</sup> /uL	MCV fL	MCH pg	MCHC g/dL	RDW %	
Group 1 - 0 mg Mo/kg bw/day											
Mean	15.5	46.0	8.26	164.9	1009	55.7	18.7	33.6	12.5	4.89	
SD	0.20	0.77	0.286	39.54	402.4	1.56	0.56	0.31	0.50	1.912	
N	9	9	9	9	9	9	9	9	9	9	
Group 2 - 5 mg Mo/kg bw/day											
Mean	15.5	46.4	8.23	170.3	1012	56.4	18.8	33.3	12.5	4.99	
SD	0.59	1.90	0.393	20.06	183.2	1.20	0.41	0.20	0.50	1.431	
N	9	9	9	9	9	9	9	9	9	9	
Group 3 - 17 mg Mo/kg bw/day											
Mean	15.1	45.1	8.04	175.4	1008	56.1	18.8	33.5	12.6	4.98	
SD	0.67	2.07	0.405	25.51	199.5	1.49	0.47	0.35	0.32	1.233	
N	10	10	10	10	10	10	10	10	10	10	
Group 4 - 60 mg Mo/kg bw/day											
Mean	15.4	45.7	8.21	177.6	994	55.7	18.8	33.7	12.5	4.66	
SD	0.65	1.69	0.190	31.52	167.1	1.89	0.77	0.58	0.25	1.728	
N	10	10	10	10	10	10	10	10	10	10	

No statistically significant differences from control mean

Females	Summary of Clinical Pathology Data Mean Hematology Values						Table 10
Occasion Termination	ANEU x10 <sup>3</sup> /uL	ALYM x10 <sup>3</sup> /uL	AMONO x10 <sup>3</sup> /uL	AEOS x10 <sup>3</sup> /uL	ABASO x10 <sup>3</sup> /uL	ALUC x10 <sup>3</sup> /uL	
Group 1 - 0 mg Mo/kg bw/day							
Mean	0.54	4.12	0.10	0.10	0.01	0.03	
SD	0.191	1.671	0.047	0.041	0.009	0.021	
N	9	9	9	9	9	9	
Group 2 - 5 mg Mo/kg bw/day							
Mean	0.43	4.31	0.12	0.09	0.01	0.03	
SD	0.107	1.301	0.052	0.017	0.006	0.015	
N	9	9	9	9	9	9	
Group 3 - 17 mg Mo/kg bw/day							
Mean	0.58	4.16	0.12	0.09	0.01	0.03	
SD	0.297	1.126	0.059	0.028	0.005	0.014	
N	10	10	10	10	10	10	
Group 4 - 60 mg Mo/kg bw/day							
Mean	0.47	4.02	0.07	0.07*	0.01	0.02	
SD	0.128	1.588	0.030	0.026	0.007	0.019	
N	10	10	10	10	10	10	

\* = p &lt; 0.05

	Summary of Clinical Pathology Data Mean Coagulation Values Preface	Table 10
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<b>Abbreviation</b>	<b>Parameter</b>	<b>Reporting Units</b>
PT	Prothrombin Time	seconds
APTT	Activated Partial Thromboplastin Time	seconds

Males	Summary of Clinical Pathology Data Mean Coagulation Values	Table 10
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	Occasion Termination	PT Seconds	APTT Seconds
Group 1 - 0 mg Mo/kg bw/day			
Mean		17.1	14.4
SD		0.88	2.13
N		10	10
Group 2 - 5 mg Mo/kg bw/day			
Mean		16.0**	15.0
SD		0.71	1.35
N		10	9
Group 3 - 17 mg Mo/kg bw/day			
Mean		16.0**	15.6
SD		0.82	2.35
N		9	9
Group 4 - 60 mg Mo/kg bw/day			
Mean		16.1**	13.7
SD		0.47	1.87
N		6	6

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\*\* = p < 0.01

Females	Summary of Clinical Pathology Data Mean Coagulation Values	Table 10
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	Occasion Termination	PT Seconds	APTT Seconds
Group 1 - 0 mg Mo/kg bw/day			
Mean		15.0	14.7
SD		0.55	1.77
N		9	9
Group 2 - 5 mg Mo/kg bw/day			
Mean		14.9	14.4
SD		0.82	1.68
N		9	9
Group 3 - 17 mg Mo/kg bw/day			
Mean		15.3	14.3
SD		0.69	1.49
N		10	10
Group 4 - 60 mg Mo/kg bw/day			
Mean		15.1	15.7
SD		0.38	2.59
N		10	10

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No statistically significant differences from control mean

	Summary of Clinical Pathology Data Mean Clinical Chemistry Values Preface	Table 10
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Abbreviation	Parameter	Reporting Units
AST	Aspartate Aminotransferase	U/L
ALT	Alanine Aminotransferase	U/L
ALKP	Alkaline Phosphatase	U/L
BUN	Blood Urea Nitrogen	mg/dL
CREAT	Creatinine	mg/dL
GLU	Fasting Glucose	mg/dL
CHOL	Cholesterol (Enzymatic)	mg/dL
TRIG	Triglycerides	mg/dL
TP	Total Protein	g/dL
ALB	Albumin	g/dL
Glob	Globulin (calculated)	g/dL
A/G	Albumin/Globulin Ratio (calculated)	
URIC	Uric Acid	mg/dL
TBILI	Total Bilirubin	mg/dL
Na <sup>+</sup>	Sodium	mEq/L
K <sup>+</sup>	Potassium	mEq/L
Cl <sup>-</sup>	Chloride	mEq/L
Ca <sup>++</sup>	Calcium	mg/dL
PHOS	Inorganic Phosphorus	mg/dL

Males	Summary of Clinical Pathology Data Mean Clinical Chemistry Values										Table 10
Occasion Termination	AST U/L	ALT U/L	ALKP U/L	BUN mg/dL	CREAT mg/dL	GLU mg/dL	CHOL mg/dL	TRIG mg/dL	TP g/dL	ALB g/dL	
Group 1 - 0 mg Mo/kg bw/day											
Mean	122	43	86	12	0.3	99	81	64	6.7	3.8	
SD	29.6	11.9	13.7	1.8	0.07	7.2	14.2	34.1	0.37	0.13	
N	10	10	10	10	10	10	10	10	10	10	
Group 2 - 5 mg Mo/kg bw/day											
Mean	125	39	83	13	0.3	114	69	57	6.6	3.7	
SD	25.1	7.8	20.7	1.5	0.05	23.3	17.4	15.2	0.46	0.18	
N	10	10	10	10	10	10	10	10	10	10	
Group 3 - 17 mg Mo/kg bw/day											
Mean	122	42	83	14	0.3	110	74	64	6.7	3.8	
SD	39.0	8.7	11.0	1.6	0.07	30.3	24.7	38.1	0.41	0.15	
N	10	10	10	10	10	10	10	10	10	10	
Group 4 - 60 mg Mo/kg bw/day											
Mean	130	40	96	13	0.2	94	80	41	6.3*	3.7	
SD	31.0	7.9	15.8	0.8	0.07	12.8	13.3	15.9	0.29	0.12	
N	10	10	10	10	10	10	10	10	10	10	

\* = p &lt; 0.05



Males	Summary of Clinical Pathology Data Mean Clinical Chemistry Values									Table 10
Occasion Termination	Glob g/dL	A/G	URIC mg/dL	TBILI mg/dL	Na+ mEq/L	K+ mEq/L	Cl- mEq/L	Ca++ mg/dL	PHOS mg/dL	
Group 1 - 0 mg Mo/kg bw/day										
Mean	2.9	1.3	1.0	0.11	146	5.5	102	11.0	7.6	
SD	0.30	0.13	0.27	0.070	0.5	0.47	0.9	0.33	0.61	
N	10	10	10	10	10	10	10	10	10	
Group 2 - 5 mg Mo/kg bw/day										
Mean	2.9	1.3	0.9	0.09	145	5.1	102	10.8	7.4	
SD	0.31	0.09	0.28	0.039	0.7	0.52	1.8	0.31	0.40	
N	10	10	10	10	10	10	10	10	10	
Group 3 - 17 mg Mo/kg bw/day										
Mean	2.9	1.3	1.2	0.11	145	5.5	101	11.0	8.4	
SD	0.28	0.12	0.60	0.055	1.4	0.50	1.6	0.48	1.37	
N	10	10	10	10	10	10	10	10	10	
Group 4 - 60 mg Mo/kg bw/day										
Mean	2.7	1.4	1.0	0.10	145	5.4	102	10.7*	8.0	
SD	0.24	0.14	0.26	0.027	0.8	0.65	1.1	0.19	0.58	
N	10	10	10	10	10	10	10	10	10	

\* = p &lt; 0.05

Females	Summary of Clinical Pathology Data Mean Clinical Chemistry Values										Table 10
	Occasion Termination	AST U/L	ALT U/L	ALKP U/L	BUN mg/dL	CREAT mg/dL	GLU mg/dL	CHOL mg/dL	TRIG mg/dL	TP g/dL	
Group 1 - 0 mg Mo/kg bw/day											
Mean	154	51	45	15	0.3	89	97	35	7.2	4.3	
SD	40.1	25.3	12.1	2.2	0.09	13.2	30.0	12.9	0.66	0.41	
N	10	10	10	10	10	10	10	10	10	10	
Group 2 - 5 mg Mo/kg bw/day											
Mean	123	41	38	13	0.2*	104	101	31	7.2	4.3	
SD	41.3	14.2	10.9	2.0	0.04	14.6	19.9	8.2	0.68	0.47	
N	10	10	10	10	10	10	10	10	10	10	
Group 3 - 17 mg Mo/kg bw/day											
Mean	189	57	43	14	0.2*	102	95	29	7.0	4.2	
SD	125.5	26.1	13.0	2.1	0.06	13.1	16.6	9.7	0.49	0.30	
N	10	10	10	10	10	10	10	10	10	10	
Group 4 - 60 mg Mo/kg bw/day											
Mean	114	35	37	15	0.2*	97	81	30	6.9	4.2	
SD	32.0	12.6	8.7	2.7	0.06	13.8	14.9	8.3	0.33	0.22	
N	10	10	10	10	10	10	10	10	10	10	

\* = p &lt; 0.05

Females		Summary of Clinical Pathology Data Mean Clinical Chemistry Values									Table 10
Occasion Termination	Glob g/dL	A/G	URIC mg/dL	TBILI mg/dL	Na+ mEq/L	K+ mEq/L	Cl- mEq/L	Ca++ mg/dL	PHOS mg/dL		
Group 1 - 0 mg Mo/kg bw/day											
Mean	3.0	1.4	1.3	0.13	143	5.0	102	11.0	6.7		
SD	0.30	0.11	0.57	0.027	2.4	0.69	1.4	0.40	2.29		
N	10	10	10	10	10	10	10	10	10		
Group 2 - 5 mg Mo/kg bw/day											
Mean	2.9	1.5	0.8**	0.17	142	4.4	101	11.1	6.7		
SD	0.25	0.10	0.29	0.041	0.7	0.21	1.7	0.47	0.58		
N	10	10	10	10	10	10	10	10	10		
Group 3 - 17 mg Mo/kg bw/day											
Mean	2.8	1.5	0.9**	0.15	141	4.5	101	10.8	6.4		
SD	0.28	0.12	0.20	0.038	0.8	0.23	0.8	0.43	0.61		
N	10	10	10	10	10	10	10	10	10		
Group 4 - 60 mg Mo/kg bw/day											
Mean	2.7*	1.5	0.9**	0.16	142	4.6	102	10.8	6.1		
SD	0.19	0.13	0.20	0.033	1.4	0.56	1.1	0.25	0.54		
N	10	10	10	10	10	10	10	10	10		

\* = p &lt; 0.05, \*\* = p &lt; 0.01

Females	Mean Estrus Cycle Data	Table 11
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	Mean Length of Cycle (days)	Number of Cycles	Number of Animals with Irregular Cycles
Group 1 - 0 mg Mo/kg bw/day			
Mean	4.0	4	
S.D.	0.11	0.7	
N	19	19	1
Group 2 - 5 mg Mo/kg bw/day			
Mean	4.1	4	
S.D.	0.17	0.7	
N	10	10	1
Group 3 - 17 mg Mo/kg bw/day			
Mean	4.0	4	
S.D.	0.26	0.9	
N	10	10	1
Group 4 - 60 mg Mo/kg bw/day			
Mean	4.1	4	
S.D.	0.29	0.9	
N	20	20	1

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No statistically significant differences from control mean

	Mean Organ Weights Preface	Table 12
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**Key to Abbreviations:**

Term bwt	=	Terminal body weight
%Body	=	Organ to Terminal Body Weight Ratio
%Brain	=	Organ to Brain Weight Ratio
Thyroid/para	=	Thyroid/parathyroid
Prostate w/semis	=	Prostate with Seminal Vesicles
w/	=	with

Males	Mean Organ Weights Terminal Sacrifice									Table 12
	Term bwt (g)	Brain			Pituitary			Thymus		
	(g)	%Body	%Brain	(g)	%Body	%Brain	(g)	%Body	%Brain	
Group 1 - 0 mg Mo/kg bw/day										
Mean	566.8	2.1918	0.3884	100.0000	0.0188	0.0033	0.8565	0.2664	0.0465	12.0813
SD	46.83	0.08240	0.02535		0.00188	0.00032	0.07043	0.08820	0.01307	3.76868
N	10	10	10	10	10	10	10	10	10	10
Group 2 - 5 mg Mo/kg bw/day										
Mean	556.4	2.1491	0.3878	100.0000	0.0161*	0.0029	0.7537*	0.2826	0.0508	13.0650
SD	40.23	0.11829	0.03256		0.00148	0.00022	0.08926	0.08121	0.01458	3.19299
N	10	10	10	10	10	10	10	10	10	10
Group 3 - 17 mg Mo/kg bw/day										
Mean	550.7	2.0977*	0.3829	100.0000	0.0169*	0.0031	0.8064	0.2571	0.0465	12.2841
SD	45.11	0.07877	0.02999		0.00204	0.00043	0.08833	0.08342	0.01412	4.03001
N	10	10	10	10	10	10	10	10	10	10
Group 4 - 60 mg Mo/kg bw/day										
Mean	482.4***	2.0748**	0.4313**	100.0000	0.0181*	0.0037**	0.8708	0.2515	0.0520	12.1186
SD	29.54	0.08110	0.02661		0.00195	0.00031	0.09256	0.07185	0.01400	3.47197
N	10	10	10	10	10	10	10	10	10	10

\* = p &lt; 0.05, \*\* = p &lt; 0.01, \*\*\* = p &lt; 0.001

Males	Mean Organ Weights Terminal Sacrifice									Table 12
	Term bwt (g)	Adrenal Glands			Spleen			Heart		
	(g)	%Body	%Brain	(g)	%Body	%Brain	(g)	%Body	%Brain	
Group 1 - 0 mg Mo/kg bw/day										
Mean	566.8	0.0720	0.0127	3.2862	0.9932	0.1765	45.3049	1.7727	0.3147	80.9079
SD	46.83	0.00929	0.00163	0.42746	0.19821	0.03868	8.68368	0.24677	0.05196	11.22630
N	10	10	10	10	10	10	10	10	10	10
Group 2 - 5 mg Mo/kg bw/day										
Mean	556.4	0.0665	0.0120	3.0984	0.9147	0.1654	42.7351	1.6465	0.2964	76.6821
SD	40.23	0.00873	0.00154	0.39857	0.11446	0.02671	6.16032	0.11239	0.01515	4.50445
N	10	10	10	10	10	10	10	10	10	10
Group 3 - 17 mg Mo/kg bw/day										
Mean	550.7	0.0697	0.0127	3.3221	0.9947	0.1803	47.4506	1.6232	0.2956	77.4355
SD	45.11	0.01187	0.00206	0.55569	0.20264	0.03308	9.67627	0.18078	0.03203	8.68173
N	10	10	10	10	10	10	10	10	10	10
Group 4 - 60 mg Mo/kg bw/day										
Mean	482.4***	0.0690	0.0143	3.3318	0.7878**	0.1637	38.0651	1.4985**	0.3113	72.2761*
SD	29.54	0.00975	0.00188	0.49867	0.10607	0.02258	5.67744	0.13278	0.02879	6.52129
N	10	10	10	10	10	10	10	10	10	10

\* = p &lt; 0.05, \*\* = p &lt; 0.01, \*\*\* = p &lt; 0.001

Males	Mean Organ Weights Terminal Sacrifice									Table 12
	Term bwt (g)	Kidneys			Liver			Epididymides		
	(g)	%Body	%Brain	(g)	%Body	%Brain	(g)	%Body	%Brain	
Group 1 - 0 mg Mo/kg bw/day										
Mean	566.8	3.3401	0.5913	152.3634	14.7911	2.6133	674.5777	1.5764	0.2796	72.0131
SD	46.83	0.34507	0.06037	14.50277	1.26397	0.16182	49.44247	0.05193	0.02159	3.60570
N	10	10	10	10	10	10	10	10	10	10
Group 2 - 5 mg Mo/kg bw/day										
Mean	556.4	3.3351	0.6002	155.4244	15.1303	2.7253	705.8807	1.6351	0.2957	76.1143
SD	40.23	0.29256	0.04345	13.39191	1.41387	0.25490	74.74097	0.19592	0.04498	8.81839
N	10	10	10	10	10	10	10	10	10	10
Group 3 - 17 mg Mo/kg bw/day										
Mean	550.7	3.2292	0.5885	154.2269	14.9148	2.7073	711.4155	1.6691	0.3051	79.5740
SD	45.11	0.23028	0.04573	13.60356	1.66844	0.19726	79.59456	0.12491	0.03500	5.18901
N	10	10	10	10	10	10	10	10	10	10
Group 4 - 60 mg Mo/kg bw/day										
Mean	482.4***	3.1128	0.6462*	150.1143	12.0677***	2.5074	582.3778**	1.5863	0.3302**	76.5097
SD	29.54	0.18892	0.03475	8.88120	0.69234	0.16691	39.51936	0.14691	0.03914	7.23291
N	10	10	10	10	10	10	10	10	10	10

\* = p &lt; 0.05, \*\* = p &lt; 0.01, \*\*\* = p &lt; 0.001



Males	Mean Organ Weights Terminal Sacrifice									Table 12
	Term bwt (g)	Prostate w/Semis			Testes			Thyroid/para		
	(g)	%Body	%Brain	(g)	%Body	%Brain	(g)	%Body	%Brain	
Group 1 - 0 mg Mo/kg bw/day										
Mean	566.8	3.1959	0.5657	145.8393	3.4347	0.6089	156.8941	0.0327	0.0058	1.4957
SD	46.83	0.30164	0.05216	12.74832	0.16961	0.04730	9.43512	0.00591	0.00107	0.27864
N	10	10	10	10	10	10	10	10	10	10
Group 2 - 5 mg Mo/kg bw/day										
Mean	556.4	3.2974	0.5943	153.7591	3.6260	0.6542	168.5067*	0.0340	0.0061	1.5770
SD	40.23	0.24713	0.04946	13.37908	0.39889	0.08049	13.63917	0.00852	0.00119	0.35329
N	10	10	10	10	10	10	10	10	10	10
Group 3 - 17 mg Mo/kg bw/day										
Mean	550.7	3.2592	0.5994	155.6491	3.5965	0.6549	171.3640**	0.0322	0.0058	1.5319
SD	45.11	0.37614	0.11160	19.37963	0.25620	0.04218	8.41851	0.00618	0.00082	0.26394
N	10	10	10	10	10	10	10	10	10	10
Group 4 - 60 mg Mo/kg bw/day										
Mean	482.4***	3.0881	0.6430*	148.9673	3.5460	0.7372***	170.9015**	0.0311	0.0064	1.4973
SD	29.54	0.26160	0.07400	13.22403	0.26399	0.06637	10.58355	0.00488	0.00083	0.21645
N	10	10	10	10	10	10	10	10	10	10

\* = p &lt; 0.05, \*\* = p &lt; 0.01, \*\*\* = p &lt; 0.001

Females	Mean Organ Weights Terminal Sacrifice									Table 12
	Term bwt (g)	Brain			Pituitary			Thymus		
	(g)	%Body	%Brain	(g)	%Body	%Brain	(g)	%Body	%Brain	
Group 1 - 0 mg Mo/kg bw/day										
Mean	282.9	1.9415	0.6874	100.0000	0.0221	0.0078	1.1430	0.2692	0.0952	13.8264
SD	13.19	0.08508	0.03938		0.00279	0.00103	0.17400	0.07122	0.02426	3.39432
N	10	10	10	10	10	10	10	10	10	10
Group 2 - 5 mg Mo/kg bw/day										
Mean	298.3	1.9216	0.6497	100.0000	0.0249	0.0083	1.2920	0.3035	0.1011	15.7929
SD	31.33	0.08969	0.06214		0.00488	0.00114	0.21675	0.06536	0.01541	3.43416
N	10	10	10	10	10	10	10	10	10	10
Group 3 - 17 mg Mo/kg bw/day										
Mean	298.6	1.9393	0.6570	100.0000	0.0214	0.0073	1.1014	0.2521	0.0843	13.0193
SD	31.03	0.07719	0.08610		0.00531	0.00204	0.26524	0.06928	0.01971	3.66215
N	10	10	10	10	10	10	10	10	10	10
Group 4 - 60 mg Mo/kg bw/day										
Mean	266.9	1.9000	0.7155	100.0000	0.0215	0.0080	1.1326	0.2473	0.0927	13.0510
SD	22.53	0.07695	0.05285		0.00353	0.00092	0.19449	0.07319	0.02584	3.88041
N	10	10	10	10	10	10	10	10	10	10

No statistically significant differences from control mean

Females		Mean Organ Weights Terminal Sacrifice							Table 12	
	Term bwt (g)	Adrenal Glands			Spleen			Heart		
		(g)	%Body	%Brain	(g)	%Body	%Brain	(g)	%Body	%Brain
Group 1 - 0 mg Mo/kg bw/day										
Mean	282.9	0.0666	0.0236	3.4291	0.5426	0.1919	27.9208	1.0610	0.3752	54.7864
SD	13.19	0.01359	0.00507	0.69950	0.07382	0.02442	3.26602	0.06579	0.01970	4.82102
N	10	10	10	10	10	10	10	10	10	10
Group 2 - 5 mg Mo/kg bw/day										
Mean	298.3	0.0654	0.0220	3.4106	0.5369	0.1808	27.9920	1.1083	0.3712	57.7022
SD	31.33	0.01573	0.00513	0.83444	0.09317	0.03057	4.92857	0.15572	0.03127	8.06551
N	10	10	10	10	10	10	10	10	10	10
Group 3 - 17 mg Mo/kg bw/day										
Mean	298.6	0.0677	0.0231	3.5045	0.5277	0.1771	27.2510	1.0760	0.3615	55.6281
SD	31.03	0.01237	0.00593	0.67781	0.05930	0.01274	3.24152	0.11257	0.03047	6.80946
N	10	10	10	10	10	10	10	10	10	10
Group 4 - 60 mg Mo/kg bw/day										
Mean	266.9	0.0611	0.0229	3.2191	0.4773	0.1787	25.1193	1.0001	0.3743	52.6739
SD	22.53	0.00847	0.00240	0.43658	0.08641	0.02836	4.59468	0.11935	0.02283	6.43405
N	10	10	10	10	10	10	10	10	10	10

No statistically significant differences from control mean

Females		Mean Organ Weights Terminal Sacrifice									Table 12
		Term bwt (g)	Kidneys			Liver			Ovaries		
		(g)	%Body	%Brain	(g)	%Body	%Brain	(g)	%Body	%Brain	
Group 1 - 0 mg Mo/kg bw/day											
Mean	282.9	1.8848	0.6657	97.1412	7.6181	2.6919	393.5322	0.0870	0.0308	4.4740	
SD	13.19	0.17429	0.04558	8.69004	0.89778	0.28508	54.36698	0.01779	0.00617	0.83605	
N	10	10	10	10	10	10	10	10	10	10	
Group 2 - 5 mg Mo/kg bw/day											
Mean	298.3	1.9611	0.6575	102.3108	7.9017	2.6429	411.6621	0.0752	0.0255	3.9216	
SD	31.33	0.27150	0.06030	15.53461	1.17979	0.20148	63.44237	0.01400	0.00585	0.75251	
N	10	10	10	10	10	10	10	10	10	10	
Group 3 - 17 mg Mo/kg bw/day											
Mean	298.6	1.8966	0.6401	98.0847	7.6735	2.5788	396.0156	0.0816	0.0277	4.2019	
SD	31.03	0.16920	0.07367	11.14800	0.69572	0.16208	35.88000	0.01309	0.00592	0.61470	
N	10	10	10	10	10	10	10	10	10	10	
Group 4 - 60 mg Mo/kg bw/day											
Mean	266.9	1.8267	0.6862	96.1961	7.0746	2.6511	372.6221	0.0767	0.0292	4.0397	
SD	22.53	0.17541	0.06154	9.01335	0.67441	0.11477	36.19478	0.01673	0.00753	0.89711	
N	10	10	10	10	10	10	10	10	10	10	

No statistically significant differences from control mean

Females		Mean Organ Weights Terminal Sacrifice						Table 12
	Term bwt (g)	Uterus w/ Cervix			Thyroid/para			
		(g)	%Body	%Brain	(g)	%Body	%Brain	
Group 1 - 0 mg Mo/kg bw/day								
Mean	282.9	0.8867	0.3146	45.6839	0.0285	0.0101	1.4737	
SD	13.19	0.45418	0.16569	23.73415	0.00438	0.00157	0.25060	
N	10	10	10	10	10	10	10	
Group 2 - 5 mg Mo/kg bw/day								
Mean	298.3	0.6972	0.2356	36.3153	0.0250*	0.0085*	1.3049	
SD	31.33	0.14188	0.05303	7.56638	0.00295	0.00117	0.16382	
N	10	10	10	10	10	10	10	
Group 3 - 17 mg Mo/kg bw/day								
Mean	298.6	0.7387	0.2488	38.1487	0.0249*	0.0084*	1.2896	
SD	31.03	0.17983	0.05850	9.43262	0.00302	0.00099	0.18776	
N	10	10	10	10	10	10	10	
Group 4 - 60 mg Mo/kg bw/day								
Mean	266.9	0.8305	0.3123	43.7011	0.0251*	0.0094*	1.3172	
SD	22.53	0.19518	0.07535	9.94527	0.00414	0.00165	0.19198	
N	10	10	10	10	10	10	10	

\* = p &lt; 0.05

Males	Mean Organ Weights Recovery Sacrifice									Table 12
	Term bwt (g)	Brain			Pituitary			Thymus		
	(g)	%Body	%Brain	(g)	%Body	%Brain	(g)	%Body	%Brain	
Group 1 - 0 mg Mo/kg bw/day										
Mean	633.1	2.2176	0.3534	100.0000	0.0203	0.0032	0.9162	0.3438	0.0543	15.5069
SD	70.50	0.06615	0.03140		0.00249	0.00049	0.11129	0.12894	0.02026	5.86668
N	10	10	10	10	10	10	10	10	10	10
Group 4 - 60 mg Mo/kg bw/day										
Mean	572.3*	2.1850	0.3834	100.0000	0.0180	0.0032	0.8254	0.2561	0.0445	11.7858
SD	35.98	0.08236	0.03101		0.00258	0.00050	0.11181	0.07684	0.01191	3.74140
N	9	9	9	9	9	9	9	9	9	9

\* = p &lt; 0.05

Males	Mean Organ Weights Recovery Sacrifice									Table 12
	Term bwt (g)	Adrenal Glands			Spleen			Heart		
	(g)	%Body	%Brain	(g)	%Body	%Brain	(g)	%Body	%Brain	
Group 1 - 0 mg Mo/kg bw/day										
Mean	633.1	0.0680	0.0108	3.0685	1.0102	0.1601	45.5310	1.8747	0.2971	84.4396
SD	70.50	0.00890	0.00180	0.41304	0.11721	0.01460	4.88533	0.18774	0.02127	6.81353
N	10	10	10	10	10	10	10	10	10	10
Group 4 - 60 mg Mo/kg bw/day										
Mean	572.3*	0.0604	0.0105	2.7573	0.9024	0.1576	41.3574	1.6840*	0.2955	77.0138*
SD	35.98	0.01384	0.00232	0.61044	0.14549	0.02229	6.90200	0.18321	0.03866	7.12477
N	9	9	9	9	9	9	9	9	9	9

\* = p &lt; 0.05

Males		Mean Organ Weights Recovery Sacrifice						Table 12		
Term bwt (g)	Kidneys			Liver			Epididymides			
	(g)	%Body	%Brain	(g)	%Body	%Brain	(g)	%Body	%Brain	
Group 1 - 0 mg Mo/kg bw/day										
Mean	633.1	3.8865	0.6188	175.2971	17.6573	2.7919	794.9518	1.7280	0.2757	77.9729
SD	70.50	0.34237	0.07191	15.08312	2.43106	0.26642	95.94301	0.15068	0.03711	7.01348
N	10	10	10	10	10	10	10	10	10	10
Group 4 - 60 mg Mo/kg bw/day										
Mean	572.3*	3.5842*	0.6283	164.0340	14.5935**	2.5570*	668.3026**	1.6371	0.2868	75.1016
SD	35.98	0.20782	0.04925	7.11018	0.89629	0.19120	40.43238	0.12827	0.02554	7.52017
N	9	9	9	9	9	9	9	9	9	9

\* =  $p < 0.05$ , \*\* =  $p < 0.01$



Males	Mean Organ Weights Recovery Sacrifice									Table 12
	Term bwt (g)	Prostate w/Semis			Testes			Thyroid/para		
	(g)	%Body	%Brain	(g)	%Body	%Brain	(g)	%Body	%Brain	
Group 1 - 0 mg Mo/kg bw/day										
Mean	633.1	3.4072	0.5458	153.8259	3.7340	0.5975	168.5827	0.0373	0.0059	1.6795
SD	70.50	0.20583	0.08264	11.34753	0.33455	0.09217	16.51709	0.00671	0.00067	0.29089
N	10	10	10	10	10	10	10	10	10	10
Group 4 - 60 mg Mo/kg bw/day										
Mean	572.3*	3.2912	0.5755	150.6905	3.4937	0.6123	160.1293	0.0309*	0.0054	1.4131*
SD	35.98	0.51197	0.08751	22.87833	0.20720	0.04598	11.86873	0.00290	0.00058	0.13113
N	9	9	9	9	9	9	9	9	9	9

\* = p &lt; 0.05

Females		Mean Organ Weights Recovery Sacrifice							Table 12	
	Term bwt (g)	Brain			Pituitary			Thymus		
	(g)	%Body	%Brain	(g)	%Body	%Brain	(g)	%Body	%Brain	
Group 1 - 0 mg Mo/kg bw/day										
Mean	313.4	1.9329	0.6233	100.0000	0.0248	0.0079	1.2826	0.2071	0.0666	10.7370
SD	35.29	0.07476	0.07132		0.00577	0.00136	0.28246	0.02779	0.01086	1.56778
N	10	10	10	10	10	10	10	10	10	10
Group 4 - 60 mg Mo/kg bw/day										
Mean	308.1	1.9631	0.6441	100.0000	0.0245	0.0080	1.2552	0.2446	0.0774	12.5498
SD	33.79	0.10276	0.07873		0.00374	0.00130	0.21550	0.13382	0.03347	7.26538
N	10	10	10	10	10	10	10	10	10	10

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No statistically significant differences from control mean

Females		Mean Organ Weights Recovery Sacrifice							Table 12	
	Term bwt (g)	Adrenal Glands			Spleen			Heart		
	(g)	(g)	%Body	%Brain	(g)	%Body	%Brain	(g)	%Body	%Brain
Group 1 - 0 mg Mo/kg bw/day										
Mean	313.4	0.0618	0.0199	3.1915	0.5113	0.1651	26.4510	1.1306	0.3620	58.5469
SD	35.29	0.01359	0.00491	0.64910	0.04199	0.02398	1.89298	0.10047	0.02223	5.32034
N	10	10	10	10	10	10	10	10	10	10
Group 4 - 60 mg Mo/kg bw/day										
Mean	308.1	0.0642	0.0209	3.2830	0.5300	0.1733	26.9715	1.1113	0.3616	56.7663
SD	33.79	0.00947	0.00262	0.52028	0.06824	0.02596	2.96257	0.10825	0.02088	6.56402
N	10	10	10	10	10	10	10	10	10	10

No statistically significant differences from control mean

Females		Mean Organ Weights Recovery Sacrifice						Table 12		
Term bwt (g)	Kidneys			Liver			Ovaries			
	(g)	%Body	%Brain	(g)	%Body	%Brain	(g)	%Body	%Brain	
Group 1 - 0 mg Mo/kg bw/day										
Mean	313.4	1.9869	0.6368	102.7868	7.9117	2.5297	409.0480	0.0737	0.0239	3.8151
SD	35.29	0.23736	0.06842	11.52877	0.94458	0.21649	42.62870	0.01286	0.00520	0.64517
N	10	10	10	10	10	10	10	10	10	10
Group 4 - 60 mg Mo/kg bw/day										
Mean	308.1	1.9589	0.6423	100.0977	8.1331	2.6557	416.2834	0.0707	0.0233	3.5681
SD	33.79	0.12454	0.07740	8.99682	0.67464	0.24804	50.49917	0.01945	0.00699	0.82398
N	10	10	10	10	10	10	10	10	10	10

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No statistically significant differences from control mean

Females		Mean Organ Weights Recovery Sacrifice						Table 12
	Term bwt	Uterus w/ Cervix			Thyroid/para			
	(g)	(g)	%Body	%Brain	(g)	%Body	%Brain	
Group 1 - 0 mg Mo/kg bw/day								
Mean	313.4	0.8224	0.2659	42.4920	0.0269	0.0085	1.3905	
SD	35.29	0.20597	0.07503	10.16139	0.00617	0.00152	0.31510	
N	10	10	10	10	10	10	10	
Group 4 - 60 mg Mo/kg bw/day								
Mean	308.1	0.7894	0.2593	40.2368	0.0258	0.0085	1.3231	
SD	33.79	0.15659	0.05963	7.76434	0.00499	0.00210	0.29060	
N	10	10	10	10	10	10	10	

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No statistically significant differences from control mean

	Mean Sperm Analysis Data Preface	Table 13
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**Corresponding expected dose levels for each group were as follows:**

Group 1	-	0 mg Mo/kg bw/day
Group 2	-	5 mg Mo/kg bw/day
Group 3	-	17 mg Mo/kg bw/day
Group 4	-	60 mg Mo/kg bw/day

Males	Mean Sperm Motility and Counts Terminal Sacrifice	Table 13
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Group		Right vas deferens		Right Cauda Epididymis		Right Testis	
		Motile sperm (%)	Progressively motile sperm (%)	Weight (g)	Sperm count (millions/g)	Weight (g)	Spermatid count (millions/g)
1	Mean	97.3	69.4	0.3734	542.7	1.7096	91.8
	SD	2.6	10.9	0.0360	120.5	0.0795	21.5
	N	10	10	10	10	10	10
2	Mean	97.9	60.4	0.3991	640.1	1.8686	91.4
	SD	2.0	14.4	0.0449	97.4	0.1689	13.9
	N	10	10	10	10	10	10
3	Mean	98.0	65.6	0.3931	649.0	1.7968	89.4
	SD	1.4	8.1	0.0384	152.2	0.1346	18.7
	N	10	10	10	10	10	10
4	Mean	98.1	59.0*	0.3742	520.9	1.7447	84.7
	SD	1.3	6.8	0.0318	132.1	0.1316	17.1
	N	10	10	10	10	10	10

\* =  $p < 0.05$

Males	Mean Sperm Motility and Counts Recovery Sacrifice	Table 13
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Group		Right vas deferens		Right Cauda Epididymis		Right Testis	
		Motile sperm (%)	Progressively motile sperm (%)	Weight (g)	Sperm count (millions/g)	Weight (g)	Spermatid count (millions/g)
1	Mean	97.9	63.4	0.3922	571.7	1.7962	70.2
	SD	1.4	9.6	0.0357	125.8	0.2887	15.4
	N	10	10	10	10	10	10
4	Mean	97.3	57.2	0.3826	690.5	1.7234	80.8
	SD	2.4	12.5	0.0283	183.2	0.1032	12.6
	N	9	9	9	9	9	9

No statistically significant differences from control mean.



Males		Mean Sperm Morphology Data Terminal Sacrifice											Table 13	
Group	Number of Animals		Normal		Decapitate		Head Abnormal		Neck Abnormal		Tail Abnormal		Mid Tail Blob	
			actual	% total	actual	% total	actual	% total	actual	% total	actual	% total	actual	% total
1	9	Mean	191.6	95.8	1.9	0.9	0.9	0.4	0.2	0.1	5.2	2.6	0.3	0.2
		SD	4.4	2.2	1.5	0.7	1.3	0.6	0.4	0.2	3.7	1.9	0.7	0.4
2	10	Mean	192.1	96.1	1.9	1.0	0.4	0.2	0.5	0.3	5.5	2.8	0.1	0.1
		SD	4.2	2.1	2.2	1.1	1.0	0.5	0.7	0.4	3.3	1.7	0.3	0.2
3	10	Mean	192.5	96.3	2.5	1.3	0.0	0.0	0.4	0.2	4.6	2.3	0.1	0.1
		SD	4.5	2.3	2.7	1.3	0.0	0.0	0.5	0.3	2.9	1.4	0.3	0.2
4	10	Mean	192.3	96.2	3.3	1.7	0.4	0.2	0.2	0.1	3.8	1.9	0.2	0.1
		SD	5.3	2.6	2.8	1.4	0.5	0.3	0.4	0.2	2.7	1.3	0.6	0.3

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No statistically significant differences from control mean

Males		Mean Sperm Morphology Data Recovery Sacrifice											Table 13	
Group	Number of Animals		Normal		Decapitate		Head Abnormal		Neck Abnormal		Tail Abnormal		Mid Tail Blob	
			actual	% total	actual	% total	actual	% total	actual	% total	actual	% total	actual	% total
1	9	Mean	195.0	97.5	0.8	0.4	0.8	0.4	0.7	0.3	2.2	1.1	0.7	0.3
		SD	2.3	1.2	0.7	0.3	0.7	0.3	0.9	0.4	1.8	0.9	1.0	0.5
4	9	Mean	194.4	97.2	1.9	0.9	0.3	0.2	0.3	0.2	3.0	1.5	0.2	0.1
		SD	3.2	1.6	2.6	1.3	0.7	0.4	0.5	0.3	1.3	0.7	0.4	0.2

No statistically significant differences from control mean

	Incidence Summary Report for Gross Necropsy Observations Preface	Table 14
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**Corresponding expected dose levels for each group were as follows:**

Group 1	-	0 mg Mo/kg bw/day
Group 2	-	5 mg Mo/kg bw/day
Group 3	-	17 mg Mo/kg bw/day
Group 4	-	60 mg Mo/kg bw/day

Huntingdon Life Sciences  
Mettlers Road  
P.O. Box 2360  
Rat/CD IGS

Incidence Summary Report for Gross Necropsy Observations by Animal  
Study number: 10-2225  
Scheduled Sacrifices FS  
Study start date: 07-Oct-10

Printed: 19-Oct-11  
Page: 1

Subchronic/Dietary

Group:	-- Males --				-- Females --			
	1	2	3	4	1	2	3	4
Number in subgroup(s) 1:	10	10	10	10	10	10	10	10
Within Normal Limits .....	9	7	8	10	10	10	9	9
Adrenal Glands								
Small .....	0	0	1	0	0	0	0	0
Epididymides								
Small .....	0	1	0	0	0	0	0	0
General Comments								
Staining on Fur .....	0	1	0	0	0	0	0	0
Kidneys								
Dilated Pelvis .....	0	0	1	0	0	0	0	0
Cyst .....	1	0	0	0	0	0	0	0
Liver								
Discolored .....	0	0	0	0	0	0	1	0
Lungs								
Discolored .....	0	1	0	0	0	0	0	0
Skin (other)								
Hair Thin/Absent .....	0	0	0	0	0	0	0	1
Testes								
Small .....	0	1	0	0	0	0	0	0

Huntingdon Life Sciences  
Mettlers Road  
P.O. Box 2360  
Rat/CD IGS

Incidence Summary Report for Gross Necropsy Observations by Animal  
Study number: 10-2225  
Scheduled Sacrifices FS  
Study start date: 07-Oct-10

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Subchronic/Dietary

	-- Males --		-- Females --	
Group:	1	4	1	4
Number in group:	10	9	10	10
-----				
Within Normal Limits .....	9	9	10	9
Lungs				
Discolored .....	0	0	0	1
Thymus				
Discolored .....	1	0	0	0

Huntingdon Life Sciences  
 Mettlers Road  
 P.O. Box 2360  
 Rat/CD IGS

Incidence Summary Report for Gross Necropsy Observations by Animal  
 Study number: 10-2225  
 All Unscheduled Sacrifices  
 Study start date: 07-Oct-10

Printed: 19-Oct-11  
 Page: 1  
 Subchronic/Dietary

	-- Males --				-- Females --			
Group:	1	2	3	4	1	2	3	4
Number in group:	0	0	0	1	0	0	0	0
-----								
Within Normal Limits .....	0	0	0	1	0	0	0	0

	Incidence Summary of Microscopic Findings with Severity Levels Preface	Table 15
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## Key to Abbreviations

BALT	=	bronchus associated lymphoid tissue
Ctls	=	Controls
Gl	=	Gland
LN	=	Lymph Node
P	=	Finding present or confirmed (grading inappropriate)
P. Patches/GALT	=	Peyers Patches/gut-associated lymphoid tissue
SC	=	Spinal Cord
w/	=	with Femoral
-	=	Finding not present or observed

## Histopathology grading:

Grade 1:	MINIMAL = the change is barely discernible and/or very few/very small foci or areas are affected
Grade 2:	SLIGHT = the change is more noticeable but only evident as few/small foci or areas affected
Grade 3:	MODERATE = the change is obviously present, and of appreciable size and/or number
Grade 4:	MARKED = the change is abundant in many areas of the section and/or is of prominent size
Grade 5:	SEVERE = the change affects a large proportion of the tissue and/or is of a large size

## Corresponding expected dose levels for each group were as follows:

Group 1	-	0 mg Mo/kg bw/day
Group 2	-	5 mg Mo/kg bw/day
Group 3	-	17 mg Mo/kg bw/day
Group 4	-	60 mg Mo/kg bw/day

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
 Administration Study in Rats (GLP)

Incidence Summary of Microscopic Findings with Severity Levels  
 Terminal Sacrifice

		-- Animals				Affected --			
		-- Males --				-- Females --			
		Ctls	2	3	4	Ctls	2	3	4
Tissues With Diagnoses	No. in group:	10	10	10	10	10	10	10	10
Adrenal Glands	Number examined:	10	10	10	10	10	0	0	10
	INCREASED CORTICAL VACUOLATION								
	->	9	5	9	4	10	0	0	10
	1>	0	2	1	3	0	0	0	0
	2>	1	3	0	3	0	0	0	0
	.....Total Incidence of Finding Observed:	1	5	1	6	0	0	0	0
	CORTICAL MINERALIZED DEPOSITS								
	->	10	10	9	9	10	0	0	10
	1>	0	0	1	1	0	0	0	0
	.....Total Incidence of Finding Observed:	0	0	1	1	0	0	0	0
	HYPOPLASIA								
	->	10	10	9	10	10	0	0	10
	4>	0	0	1	0	0	0	0	0
	.....Total Incidence of Finding Observed:	0	0	1	0	0	0	0	0
Aorta	Number examined:	10	0	0	10	10	0	0	10
Brain	Number examined:	10	0	0	10	10	0	0	10
Cecum	Number examined:	10	0	0	10	10	0	0	10
Cervical SC	Number examined:	10	0	0	10	10	0	0	10
Colon	Number examined:	10	0	0	10	10	0	0	10
Distal Femur	Number examined:	10	0	0	10	10	0	0	10
Duodenum	Number examined:	10	0	0	10	10	0	0	10
Epididymides	Number examined:	10	0	0	10				
Esophagus	Number examined:	10	0	0	10	10	0	0	10

All Diagnoses; Subgroups: All; Phases: P3; Death types: Scheduled FS; Date of death range: 25-Jan-11 To 26-Jan-11



Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)

Incidence Summary of Microscopic Findings with Severity Levels  
Terminal Sacrifice

Controls from group(s): 1		-- Animals --				Affected --			
		-- Males --				-- Females --			
Tissues With Diagnoses	Animal sex: Dosage group: No. in group:	Ctls	2	3	4	Ctls	2	3	4
Eyes	Number examined:	10	10	10	10	10	10	10	10
RETINAL FOLDS									
	->	9	0	0	9	9	0	0	10
	P>	1	0	0	1	1	0	0	0
.....Total Incidence of Finding Observed:		1	0	0	1	1	0	0	0
Femoral Marrow	Number examined:	10	0	0	10	10	0	0	10
Harderian Gl	Number examined:	10	0	0	10	10	0	0	10
INFLAMMATORY INFILTRATE: MONONUCLEAR CELL									
	->	8	0	0	9	8	0	0	6
	1>	2	0	0	0	2	0	0	4
	2>	0	0	0	1	0	0	0	0
.....Total Incidence of Finding Observed:		2	0	0	1	2	0	0	4
Heart	Number examined:	10	0	0	10	10	0	0	10
MYOFIBER DEGENERATION WITH MONONUCLEAR CELL INFILTRATE									
	->	8	0	0	10	10	0	0	10
	1>	2	0	0	0	0	0	0	0
.....Total Incidence of Finding Observed:		2	0	0	0	0	0	0	0
Ileum	Number examined:	10	0	0	10	10	0	0	10
Jejunum	Number examined:	10	0	0	10	10	0	0	10
Kidneys	Number examined:	10	0	0	10	10	10	10	10
TUBULAR CYST(S)									
	->	9	0	0	10	9	8	10	9
	P>	1	0	0	0	1	2	0	1
.....Total Incidence of Finding Observed:		1	0	0	0	1	2	0	1

All Diagnoses; Subgroups: All; Phases: P3; Death types: Scheduled FS; Date of death range: 25-Jan-11 To 26-Jan-11

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
 Administration Study in Rats (GLP)

Incidence Summary of Microscopic Findings with Severity Levels  
 Terminal Sacrifice

		-- Animals				Affected --			
		-- Males --				-- Females --			
		Ctls	2	3	4	Ctls	2	3	4
Tissues With Diagnoses	Animal sex: Dosage group: No. in group:	10	10	10	10	10	10	10	10
Controls from group(s): 1									
Kidneys	Number examined:	10	0	0	10	10	10	10	10
	INFLAMMATORY INFILTRATE: MONONUCLEAR CELL, INTERSTITIAL								
	->	8	0	0	10	10	10	10	10
	1>	1	0	0	0	0	0	0	0
	2>	1	0	0	0	0	0	0	0
	.....Total Incidence of Finding Observed:	2	0	0	0	0	0	0	0
	BASOPHILIC TUBULES								
	->	7	0	0	7	10	10	10	9
	1>	3	0	0	3	0	0	0	1
	.....Total Incidence of Finding Observed:	3	0	0	3	0	0	0	1
	MINERALIZED DEPOSITS								
	->	10	0	0	10	6	8	5	5
	1>	0	0	0	0	3	1	5	3
	2>	0	0	0	0	1	1	0	2
	.....Total Incidence of Finding Observed:	0	0	0	0	4	2	5	5
	TUBULAR HYPERPLASIA								
	->	10	0	0	10	10	10	10	8
	2>	0	0	0	0	0	0	0	2
	.....Total Incidence of Finding Observed:	0	0	0	0	0	0	0	2
	PELVIC CALCULI								
	->	10	0	0	10	10	10	9	10
	2>	0	0	0	0	0	0	1	0
	.....Total Incidence of Finding Observed:	0	0	0	0	0	0	1	0
Lacrimal gland	Number examined:	10	0	0	10	10	0	0	10
	INFLAMMATORY INFILTRATE: MONONUCLEAR CELL								
	->	8	0	0	10	10	0	0	9
	1>	2	0	0	0	0	0	0	1
	.....Total Incidence of Finding Observed:	2	0	0	0	0	0	0	1

All Diagnoses; Subgroups: All; Phases: P3; Death types: Scheduled FS; Date of death range: 25-Jan-11 To 26-Jan-11

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
 Administration Study in Rats (GLP)

Incidence Summary of Microscopic Findings with Severity Levels  
 Terminal Sacrifice

		-- Animals				Affected --			
		-- Males --				-- Females --			
		Ctls	2	3	4	Ctls	2	3	4
Tissues With Diagnoses	Animal sex: Dosage group: No. in group:	10	10	10	10	10	10	10	10
Liver	Number examined:	10	0	0	10	10	0	0	10
	FOCAL NECROSIS								
	->	10	0	0	9	10	0	0	10
	1>	0	0	0	1	0	0	0	0
	.....Total Incidence of Finding Observed:	0	0	0	1	0	0	0	0
	BILE DUCT HYPERPLASIA								
	->	10	0	0	10	8	0	0	9
	1>	0	0	0	0	2	0	0	1
	.....Total Incidence of Finding Observed:	0	0	0	0	2	0	0	1
	INFLAMMATORY FOCI								
	->	10	0	0	10	10	0	0	9
	1>	0	0	0	0	0	0	0	1
	.....Total Incidence of Finding Observed:	0	0	0	0	0	0	0	1
Lumbar SC	Number examined:	10	0	0	10	10	0	0	10
Lungs	Number examined:	10	0	0	10	10	0	0	10
	INCREASED BALT								
	->	8	0	0	8	10	0	0	10
	1>	2	0	0	1	0	0	0	0
	2>	0	0	0	1	0	0	0	0
	.....Total Incidence of Finding Observed:	2	0	0	2	0	0	0	0
	ALVEOLAR MACROPHAGES								
	->	10	0	0	10	9	0	0	10
	1>	0	0	0	0	1	0	0	0
	.....Total Incidence of Finding Observed:	0	0	0	0	1	0	0	0

All Diagnoses; Subgroups: All; Phases: P3; Death types: Scheduled FS; Date of death range: 25-Jan-11 To 26-Jan-11

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
 Administration Study in Rats (GLP)

Incidence Summary of Microscopic Findings with Severity Levels  
 Terminal Sacrifice

		-- Animals --				Affected --					
Controls from group(s): 1		-- Males --				-- Females --					
Animal sex:		Ctl's				Ctl's					
Dosage group:		2	3	4	2	3	4	4			
Tissues With Diagnoses		No. in group:				No. in group:					
Mammary protocol		10	10	10	10	10	10	10	10		
ALVEOLAR ATROPHY		Number examined:		9	0	0	10	10	0	0	10
		->		9	0	0	9	10	0	0	10
		2>		0	0	0	1	0	0	0	0
.....Total Incidence of Finding Observed:		0	0	0	1	0	0	0	0	0	0
Mediastinal LN		Number examined:		10	0	0	10	10	0	0	10
ERYTHROCYTOSIS/ERYTHROPHAGOCYTOSIS		->		9	0	0	10	6	0	0	6
		1>		0	0	0	0	3	0	0	2
		2>		1	0	0	0	1	0	0	2
.....Total Incidence of Finding Observed:		1	0	0	0	4	0	0	0	4	4
Mesenteric LN		Number examined:		10	0	0	10	10	0	0	10
MAST CELLS: INCREASED		->		10	0	0	9	10	0	0	10
		2>		0	0	0	1	0	0	0	0
.....Total Incidence of Finding Observed:		0	0	0	1	0	0	0	0	0	0
Muscle protocol		Number examined:		10	0	0	10	10	0	0	10
MYOFIBER DEGENERATION/REGENERATION		->		10	0	0	10	10	0	0	10
.....Total Incidence of Finding Observed:		0	0	0	0	0	0	0	0	0	0
Nerve Sciatic		Number examined:		10	0	0	10	10	0	0	10
Ovaries		Number examined:		10	0	0	10	10	0	0	10
CYST(S)		->						8	0	0	8
		1>						1	0	0	0
		2>						1	0	0	2
.....Total Incidence of Finding Observed:								2	0	0	2

All Diagnoses; Subgroups: All; Phases: P3; Death types: Scheduled FS; Date of death range: 25-Jan-11 To 26-Jan-11

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
 Administration Study in Rats (GLP)

Incidence Summary of Microscopic Findings with Severity Levels  
 Terminal Sacrifice

Controls from group(s): 1 Tissues With Diagnoses	Animal sex: Dosage group: No. in group:	-- Animals --				Affected --			
		-- Males --				-- Females --			
		Ctls	2	3	4	Ctls	2	3	4
Ovaries	Number examined:	10	10	10	10	10	0	0	10
ATROPHIC CHANGES									
	->					6	0	0	6
	2>					4	0	0	3
	3>					0	0	0	1
.....Total Incidence of Finding Observed:						4	0	0	4
P. Patches/GALT	Number examined:	10	0	0	10	10	0	0	10
INCREASED SIZE/CELLULARITY									
	->	10	0	0	9	10	0	0	10
	2>	0	0	0	1	0	0	0	0
.....Total Incidence of Finding Observed:		0	0	0	1	0	0	0	0
Pancreas	Number examined:	10	0	0	10	10	0	0	10
LYMPHOID CELL AGGREGATE(S)									
	->	10	0	0	10	10	0	0	8
	1>	0	0	0	0	0	0	0	2
.....Total Incidence of Finding Observed:		0	0	0	0	0	0	0	2
Parathyroid	Number examined:	8	0	0	9	8	0	0	9
Pituitary	Number examined:	10	0	0	10	10	0	0	10
CYST(S)									
	->	8	0	0	10	9	0	0	10
	P>	2	0	0	0	1	0	0	0
.....Total Incidence of Finding Observed:		2	0	0	0	1	0	0	0
Prostate	Number examined:	9	0	0	10				
INFLAMMATORY CELL INFILTRATE: MONONUCLEAR CELL									
	->	7	0	0	8				
	1>	2	0	0	2				
.....Total Incidence of Finding Observed:		2	0	0	2				
Salivary Gland	Number examined:	10	0	0	10	10	0	0	10
Seminal Vesicles	Number examined:	10	0	0	10				

All Diagnoses; Subgroups: All; Phases: P3; Death types: Scheduled FS; Date of death range: 25-Jan-11 To 26-Jan-11

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
 Administration Study in Rats (GLP)

Incidence Summary of Microscopic Findings with Severity Levels  
 Terminal Sacrifice

Controls from group(s): 1		-- Animals --				Affected --			
		-- Males --				-- Females --			
Tissues With Diagnoses	Animal sex: Dosage group: No. in group:	Ctls	2	3	4	Ctls	2	3	4
Number examined:		10	10	10	10	10	10	10	10
Skin (other) ..... HYPOTRICHOSIS	Number examined:	0	0	0	0	0	0	0	1
	3>	0	0	0	0	0	0	0	1
.....Total Incidence of Finding Observed:		0	0	0	0	0	0	0	1
Skin protocol .....	Number examined:	10	0	0	10	10	0	0	10
Spleen .....	Number examined:	10	0	0	10	10	0	0	10
Sternal Marrow .....	Number examined:	10	0	0	10	10	0	0	10
Sternum .....	Number examined:	10	0	0	10	10	0	0	10
Stomach .....	Number examined:	10	0	0	10	10	0	0	10
LIMITING RIDGE: EPITHELIUM-SQUAMOUS CELL HYPERPLASIA									
	->	9	0	0	9	10	0	0	10
	2>	1	0	0	1	0	0	0	0
.....Total Incidence of Finding Observed:		1	0	0	1	0	0	0	0
LIMITING RIDGE: MIXED INFLAMMATORY CELLS									
	->	10	0	0	9	10	0	0	10
	2>	0	0	0	1	0	0	0	0
.....Total Incidence of Finding Observed:		0	0	0	1	0	0	0	0
Testes .....	Number examined:	10	0	0	10				
TUBULAR DEGENERATION/ATROPHY									
	->	9	0	0	10				
	1>	1	0	0	0				
.....Total Incidence of Finding Observed:		1	0	0	0				
Thoracic SC .....	Number examined:	10	0	0	10	10	0	0	10
Thymus .....	Number examined:	10	0	0	10	10	0	0	10
Thyroid .....	Number examined:	10	0	0	10	10	0	0	10
Trachea .....	Number examined:	10	0	0	10	10	0	0	10

All Diagnoses; Subgroups: All; Phases: P3; Death types: Scheduled FS; Date of death range: 25-Jan-11 To 26-Jan-11

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
 Administration Study in Rats (GLP)

Incidence Summary of Microscopic Findings with Severity Levels  
 Terminal Sacrifice

		-- Animals				Affected --			
Controls from group(s): 1		-- Males --				-- Females --			
Animal sex:									
Dosage group:		Ctls	2	3	4	Ctls	2	3	4
Tissues With Diagnoses		No. in group:	10	10	10	10	10	10	10
Urinary Bladder	.....Number examined:	10	0	0	10	10	0	0	10
Uterus w/ Cervix	.....Number examined:					9	0	0	10
Vagina	.....Number examined:					9	0	0	10

All Diagnoses; Subgroups: All; Phases: P3; Death types: Scheduled FS; Date of death range: 25-Jan-11 To 26-Jan-11

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
 Administration Study in Rats (GLP)

Incidence Summary of Microscopic Findings with Severity Levels  
 Recovery Sacrifice

		-- Animals		Affected	
		-- Males --		-- Females --	
Controls from group(s): 1		Ctls	4	Ctls	4
Tissues With Diagnoses	Dosage group: No. in group:	10	9	10	10
Adrenal Glands	Number examined:	10	9	0	0
INCREASED CORTICAL VACUOLATION					
	->	7	2	0	0
	1>	1	3	0	0
	2>	2	4	0	0
.....	Total Incidence of Finding Observed:	3	7	0	0
CORTICAL MINERALIZED DEPOSITS					
	->	10	9	0	0
.....	Total Incidence of Finding Observed:	0	0	0	0
HYPOPLASIA					
	->	10	9	0	0
.....	Total Incidence of Finding Observed:	0	0	0	0

All Diagnoses; Subgroups: All; Phases: P4; Death types: Scheduled FS; Date of death range: 25-Mar-11 To 25-Mar-11



Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)

Incidence Summary of Microscopic Findings with Severity Levels  
Unscheduled Deaths

Controls from group(s): 1		-- Animals				Affected --				
		-- Males --				-- Females --				
Tissues With Diagnoses		Animal sex:	Dosage group:			Dosage group:				
		No. in group:	Ctls	2	3	4	Ctls	2	3	4
Adrenal Glands	.....	Number examined:	0	0	0	1	0	0	0	0
INCREASED CORTICAL VACUOLATION										
		->	0	0	0	1	0	0	0	0
.....Total Incidence of Finding Observed:			0	0	0	0	0	0	0	0
CORTICAL MINERALIZED DEPOSITS										
		->	0	0	0	1	0	0	0	0
.....Total Incidence of Finding Observed:			0	0	0	0	0	0	0	0
HYPOPLASIA										
		->	0	0	0	1	0	0	0	0
.....Total Incidence of Finding Observed:			0	0	0	0	0	0	0	0
Aorta	.....	Number examined:	0	0	0	1	0	0	0	0
Brain	.....	Number examined:	0	0	0	1	0	0	0	0
Cecum	.....	Number examined:	0	0	0	1	0	0	0	0
Cervical SC	.....	Number examined:	0	0	0	1	0	0	0	0
Colon	.....	Number examined:	0	0	0	1	0	0	0	0
Distal Femur	.....	Number examined:	0	0	0	1	0	0	0	0
Duodenum	.....	Number examined:	0	0	0	1	0	0	0	0
Epididymides	.....	Number examined:	0	0	0	1				
Esophagus	.....	Number examined:	0	0	0	1	0	0	0	0

All Diagnoses; Subgroups: All; Phases: All; Death types: All unscheduled; Date of death range: 11-Dec-10 To 11-Dec-10

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
 Administration Study in Rats (GLP)

Incidence Summary of Microscopic Findings with Severity Levels  
 Unscheduled Deaths

		-- Animals				Affected --			
		-- Males --				-- Females --			
		Ctls	2	3	4	Ctls	2	3	4
Tissues With Diagnoses	Animal sex: Dosage group: No. in group:	0	0	0	1	0	0	0	0
Controls from group(s): 1									
Eyes	Number examined:	0	0	0	1	0	0	0	0
RETINAL FOLDS									
	->	0	0	0	1	0	0	0	0
	.....Total Incidence of Finding Observed:	0	0	0	0	0	0	0	0
Femoral Marrow	Number examined:	0	0	0	1	0	0	0	0
Harderian Gl	Number examined:	0	0	0	1	0	0	0	0
INFLAMMATORY INFILTRATE: MONONUCLEAR CELL									
	->	0	0	0	1	0	0	0	0
	.....Total Incidence of Finding Observed:	0	0	0	0	0	0	0	0
Heart	Number examined:	0	0	0	1	0	0	0	0
MYOFIBER DEGENERATION WITH MONONUCLEAR CELL INFILTRATE									
	->	0	0	0	1	0	0	0	0
	.....Total Incidence of Finding Observed:	0	0	0	0	0	0	0	0
Ileum	Number examined:	0	0	0	1	0	0	0	0
Jejunum	Number examined:	0	0	0	1	0	0	0	0
Kidneys	Number examined:	0	0	0	1	0	0	0	0
TUBULAR CYST(S)									
	->	0	0	0	1	0	0	0	0
	.....Total Incidence of Finding Observed:	0	0	0	0	0	0	0	0
INFLAMMATORY INFILTRATE: MONONUCLEAR CELL, INTERSTITIAL									
	->	0	0	0	1	0	0	0	0
	.....Total Incidence of Finding Observed:	0	0	0	0	0	0	0	0

All Diagnoses; Subgroups: All; Phases: All; Death types: All unscheduled; Date of death range: 11-Dec-10 To 11-Dec-10

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
 Administration Study in Rats (GLP)

Incidence Summary of Microscopic Findings with Severity Levels  
 Unscheduled Deaths

		-- Animals				Affected --			
		-- Males --				-- Females --			
		Ctls	2	3	4	Ctls	2	3	4
Tissues With Diagnoses	Animal sex: Dosage group: No. in group:	0	0	0	1	0	0	0	0
Controls from group(s): 1									
Kidneys	Number examined:	0	0	0	1	0	0	0	0
BASOPHILIC TUBULES									
	1->	0	0	0	1	0	0	0	0
.....	Total Incidence of Finding Observed:	0	0	0	1	0	0	0	0
MINERALIZED DEPOSITS									
	->	0	0	0	1	0	0	0	0
.....	Total Incidence of Finding Observed:	0	0	0	0	0	0	0	0
TUBULAR HYPERPLASIA									
	->	0	0	0	1	0	0	0	0
.....	Total Incidence of Finding Observed:	0	0	0	0	0	0	0	0
PELVIC CALCULI									
	->	0	0	0	1	0	0	0	0
.....	Total Incidence of Finding Observed:	0	0	0	0	0	0	0	0
Lacrimal gland	Number examined:	0	0	0	1	0	0	0	0
INFLAMMATORY INFILTRATE: MONONUCLEAR CELL									
	->	0	0	0	1	0	0	0	0
.....	Total Incidence of Finding Observed:	0	0	0	0	0	0	0	0
Liver	Number examined:	0	0	0	1	0	0	0	0
FOCAL NECROSIS									
	->	0	0	0	1	0	0	0	0
.....	Total Incidence of Finding Observed:	0	0	0	0	0	0	0	0
BILE DUCT HYPERPLASIA									
	->	0	0	0	1	0	0	0	0
.....	Total Incidence of Finding Observed:	0	0	0	0	0	0	0	0

All Diagnoses; Subgroups: All; Phases: All; Death types: All unscheduled; Date of death range: 11-Dec-10 To 11-Dec-10

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)

Incidence Summary of Microscopic Findings with Severity Levels  
Unscheduled Deaths

		-- Animals --				Affected --			
		-- Males --				-- Females --			
		Ctls	2	3	4	Ctls	2	3	4
Tissues With Diagnoses	Animal sex: Dosage group: No. in group:	0	0	0	1	0	0	0	0
Liver	Number examined:	0	0	0	1	0	0	0	0
INFLAMMATORY FOCI									
	->	0	0	0	1	0	0	0	0
.....Total Incidence of Finding Observed:		0	0	0	0	0	0	0	0
Lumbar SC	Number examined:	0	0	0	1	0	0	0	0
Lungs	Number examined:	0	0	0	1	0	0	0	0
INCREASED BALT									
	1>	0	0	0	1	0	0	0	0
.....Total Incidence of Finding Observed:		0	0	0	1	0	0	0	0
ALVEOLAR MACROPHAGES									
	->	0	0	0	1	0	0	0	0
.....Total Incidence of Finding Observed:		0	0	0	0	0	0	0	0
Mammary protocol	Number examined:	0	0	0	1	0	0	0	0
ALVEOLAR ATROPHY									
	->	0	0	0	1	0	0	0	0
.....Total Incidence of Finding Observed:		0	0	0	0	0	0	0	0
Mediastinal LN	Number examined:	0	0	0	1	0	0	0	0
ERYTHROCYTOSIS/ERYTHROPHAGOCYTOSIS									
	->	0	0	0	1	0	0	0	0
.....Total Incidence of Finding Observed:		0	0	0	0	0	0	0	0
Mesenteric LN	Number examined:	0	0	0	1	0	0	0	0
MAST CELLS: INCREASED									
	->	0	0	0	1	0	0	0	0
.....Total Incidence of Finding Observed:		0	0	0	0	0	0	0	0

All Diagnoses; Subgroups: All; Phases: All; Death types: All unscheduled; Date of death range: 11-Dec-10 To 11-Dec-10

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)

Incidence Summary of Microscopic Findings with Severity Levels  
Unscheduled Deaths

Controls from group(s): 1		-- Animals --				Affected --			
		-- Males --				-- Females --			
Tissues With Diagnoses		Ctls	2	3	4	Ctls	2	3	4
Muscle protocol	Number examined:	0	0	0	1	0	0	0	0
MYOFIBER DEGENERATION/REGENERATION									
	1>	0	0	0	1	0	0	0	0
.....Total Incidence of Finding Observed:		0	0	0	1	0	0	0	0
Nerve Sciatic	Number examined:	0	0	0	1	0	0	0	0
Ovaries	Number examined:					0	0	0	0
CYST(S)									
.....Total Incidence of Finding Observed:						0	0	0	0
ATROPHIC CHANGES									
.....Total Incidence of Finding Observed:						0	0	0	0
P. Patches/GALT	Number examined:	0	0	0	1	0	0	0	0
INCREASED SIZE/CELLULARITY									
	->	0	0	0	1	0	0	0	0
.....Total Incidence of Finding Observed:		0	0	0	0	0	0	0	0
Pancreas	Number examined:	0	0	0	1	0	0	0	0
LYMPHOID CELL AGGREGATE(S)									
	->	0	0	0	1	0	0	0	0
.....Total Incidence of Finding Observed:		0	0	0	0	0	0	0	0
Parathyroid	Number examined:	0	0	0	1	0	0	0	0
Pituitary	Number examined:	0	0	0	1	0	0	0	0
CYST(S)									
	->	0	0	0	1	0	0	0	0
.....Total Incidence of Finding Observed:		0	0	0	0	0	0	0	0

All Diagnoses; Subgroups: All; Phases: All; Death types: All unscheduled; Date of death range: 11-Dec-10 To 11-Dec-10

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)

Incidence Summary of Microscopic Findings with Severity Levels  
Unscheduled Deaths

Controls from group(s): 1		-- Animals				Affected --			
		-- Males --				-- Females --			
Tissues With Diagnoses	Animal sex: Dosage group: No. in group:	Ctls	2	3	4	Ctls	2	3	4
Prostate	Number examined:	0	0	0	1	0	0	0	0
INFLAMMATORY CELL INFILTRATE: MONONUCLEAR CELL									
	->	0	0	0	1				
.....Total Incidence of Finding Observed:		0	0	0	0				
Salivary Gland	Number examined:	0	0	0	1	0	0	0	0
Seminal Vesicles	Number examined:	0	0	0	1				
Skin (other)	Number examined:	0	0	0	0	0	0	0	0
HYPOTRICHOSIS									
.....Total Incidence of Finding Observed:		0	0	0	0	0	0	0	0
Skin protocol	Number examined:	0	0	0	1	0	0	0	0
Spleen	Number examined:	0	0	0	1	0	0	0	0
Sternal Marrow	Number examined:	0	0	0	1	0	0	0	0
Sternum	Number examined:	0	0	0	1	0	0	0	0
Stomach	Number examined:	0	0	0	1	0	0	0	0
LIMITING RIDGE: EPITHELIUM-SQUAMOUS CELL HYPERPLASIA									
	->	0	0	0	1	0	0	0	0
.....Total Incidence of Finding Observed:		0	0	0	0	0	0	0	0
LIMITING RIDGE: MIXED INFLAMMATORY CELLS									
	->	0	0	0	1	0	0	0	0
.....Total Incidence of Finding Observed:		0	0	0	0	0	0	0	0

All Diagnoses; Subgroups: All; Phases: All; Death types: All unscheduled; Date of death range: 11-Dec-10 To 11-Dec-10

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
 Administration Study in Rats (GLP)

Incidence Summary of Microscopic Findings with Severity Levels  
 Unscheduled Deaths

		-- Animals				Affected --			
Controls from group(s): 1		-- Males --				-- Females --			
Animal sex:									
Dosage group:		Ctls	2	3	4	Ctls	2	3	4
Tissues With Diagnoses									
No. in group:		0	0	0	1	0	0	0	0
Testes	Number examined:	0	0	0	1				
TUBULAR DEGENERATION/ATROPHY									
	->	0	0	0	1				
Total Incidence of Finding Observed:		0	0	0	0				
Thoracic SC	Number examined:	0	0	0	1	0	0	0	0
Thymus	Number examined:	0	0	0	1	0	0	0	0
Thyroid	Number examined:	0	0	0	1	0	0	0	0
Trachea	Number examined:	0	0	0	1	0	0	0	0
Urinary Bladder	Number examined:	0	0	0	1	0	0	0	0
Uterus w/ Cervix	Number examined:					0	0	0	0
Vagina	Number examined:					0	0	0	0

All Diagnoses; Subgroups: All; Phases: All; Death types: All unscheduled; Date of death range: 11-Dec-10 To 11-Dec-10

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## APPENDIX A

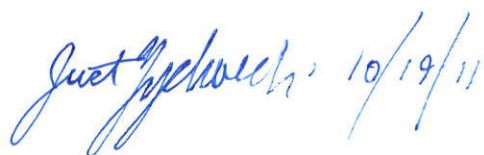
### Molybdenum Sample Analysis by ICP-MS

Molybdenum analysis was performed by inductively coupled plasma – mass spectroscopy (ICP-MS) by the Diagnostic Center for Population and Animal Health in the College of Veterinary Medicine at Michigan State University. Details of the analytical procedure are as follows.

Feed samples were dried overnight in a 75 degree Celsius oven, and a dry matter ratio was obtained by measuring the moisture lost in drying. Dry feeds were weighed out and digested overnight in a 95 degree Celsius oven in individual sealed vessels with 1 ml nitric acid: 100 mg feed ratio. The resulting solution was diluted with 18 MΩ water to a final mass of 25g. The concentrated solutions and salts were further diluted with 18 MΩ water to lower the concentration of the analytes in the diluted samples into the calibration range.

200 uL of each digest, and serum/blood samples, were pipetted and diluted with 5mL of a solution containing 0.5% EDTA and Triton X-100, 1% ammonia hydroxide, 2% propanol and 20ppb of scandium, rhodium, indium and bismuth as internal standards. An Agilent 7500ce Inductively Coupled Plasma – Mass Spectrometer (ICP-MS) was used for the analysis. The ICP-MS was tuned to yield a minimum of 5000 cps sensitivity for 1ppb yttrium (mass 89), less than 1.0% oxide level as determined by the 156/140 mass ratio and less than 2.0% double charged ions as determined by the 70/140 mass ratio. Each element was calibrated using a 4 point linear curve of the analyte:internal standard response ratio.

Three modes were used to minimize the spectral interferences for the analysis. Copper (mass 65), zinc (mass 66) and cobalt (mass 59) were analyzed in helium mode. Selenium (mass 78) and iron (mass 56) were analyzed in hydrogen mode. Lastly, manganese (mass 55), and molybdenum (mass 95) were analyzed in non-gas mode.



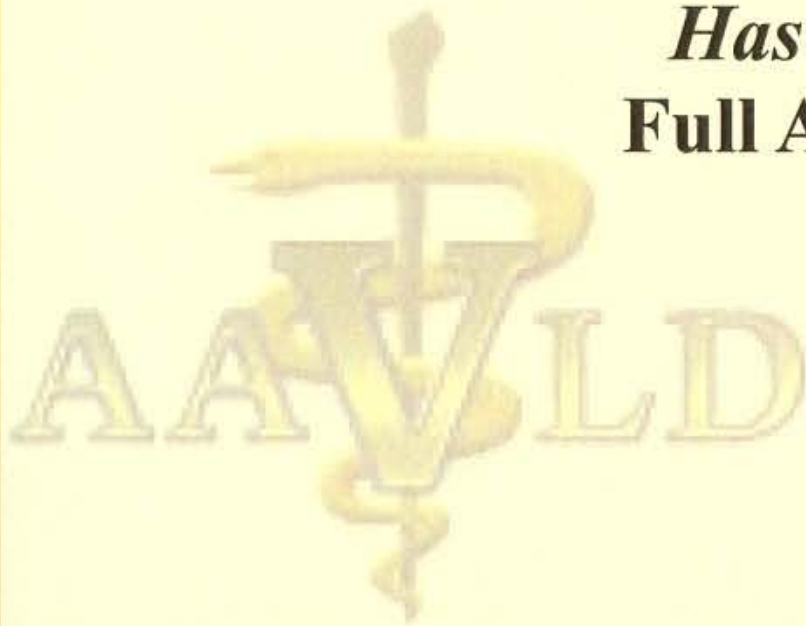
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**The American Association  
of  
Veterinary Laboratory Diagnosticians  
Accreditation Committee**

*certifies that*

*Diagnostic Center for Population and Animal Health  
Michigan State University  
Lansing, Michigan*

*Has met the standard for  
Full Accreditation/All species*



*Tony Nelson DVM*  
\_\_\_\_\_  
Chairman, Committee

*Patricia Lukens*  
\_\_\_\_\_  
Administrative Assistant, Committee

*Expires December 31, 2012*

Study No.: 10-2225

Sample Label	Description	Manganese (ng/g dry)	Iron (ug/g dry)	Cobalt (ng/g dry)	Copper (ug/g dry)	Zinc (ug/g dry)	Selenium (ng/g dry)	Molybdenum (ng/g dry)
C.R.D # 2016 Meal - 0mg/kg - TOP	1 week (homogeneity)	90830	172	654.9	13.865	74.905	287.65	901.4
C.R.D # 2016 Meal - 0mg/kg - MIDDLE	1 week (homogeneity)	86065	168.25	723.15	15.275	69.115	265.75	903.25
C.R.D # 2016 Meal - 0mg/kg - BOTTOM	1 week (homogeneity)	89420	171.3	648.7	13.54	67.075	258.65	914.85
Sodium Molybdate Dihydrate - 151.05mg/kg - TOP	1 week (homogeneity)	86655	168.65	699.2	15.05	68.865	257.55	51920
Sodium Molybdate Dihydrate - 151.05mg/kg - MIDDLE	1 week (homogeneity)	81620	168.25	764.2	16.465	71.485	258.9	48180
Sodium Molybdate Dihydrate - 151.05mg/kg - BOTTOM	1 week (homogeneity)	89295	169.05	662.15	13.185	72.275	254.9	49630
Sodium Molybdate Dihydrate - 524.89mg/kg -TOP	1 week (homogeneity)	86920	169.4	675.15	14.54	72.165	257.35	261500
Sodium Molybdate Dihydrate - 524.89mg/kg - MIDDLE	1 week (homogeneity)	90820	173	650.65	13.62	72.86	252.6	257200
Sodium Molybdate Dihydrate - 524.89mg/kg - BOTTOM	1 week (homogeneity)	89790	171.55	678.65	14.955	65.72	258.2	246200
Sodium Molybdate Dihydrate - 1851.31mg/kg - TOP	1 week (homogeneity)	94320	172.1	665.1	14.81	86.89	258.5	850700
Sodium Molybdate Dihydrate - 1851.31mg/kg - MIDDLE	1 week (homogeneity)	99605	161.65	677.1	13.38	77.895	251.45	858650
Sodium Molybdate Dihydrate - 1851.31mg/kg - BOTTOM	1 week (homogeneity)	101125	232.2	649.1	13.655	66.71	254.75	840350
C.R.D. #2016 - 0mg/kg	1 week	78640	174.6	643.1	14.34	62.01	259.9	912.6
Sodium Molybdate Dihydrate - 151.05mg/kg	1 week	81930	168.2	670.3	21.66	68.89	277.1	65460
Sodium Molybdate Dihydrate - 524.89mg/kg	1 week	78020	171.3	661.1	14.78	90.4	271.3	234200
Sodium Molybdate Dihydrate - 1851.31mg/kg	1 week	78110	160.7	683.5	13.13	72.44	259.8	847400
C.R.D. #2016 Meal - 0 Mg/Kg	2 weeks	85480	163.4	765	13.52	76.25	275.5	907.9
Sodium Molybdate Dihydrate - 159.01 Mg/Kg	2 weeks	80540	176.8	622.1	22.05	70.68	256.6	60160
Sodium Molybdate Dihydrate - 549.93 Mg/Kg	2 weeks	79270	170.8	734.2	14	71.21	265.9	220800
Sodium Molybdate Dihydrate - 1968.82 Mg/Kg	2 weeks	86610	162.9	668.3	15.24	76.14	274.8	850800
C.R.D. #2016 Meal - 0 Mg/Kg	3 weeks	82330	164.8	656.9	14.05	73.35	265.5	901.4
Sodium Molybdate Dihydrate - 168.65 Mg/Kg	3 weeks	84520	177.2	693	12.85	78.96	265.4	64130
Sodium Molybdate Dihydrate - 581.88 Mg/Kg	3 weeks	84130	172.8	600.8	14.37	68.08	265.7	230400
Sodium Molybdate Dihydrate - 2023.14 Mg/Kg	3 weeks	85970	162.7	673.5	16.82	74.72	269.2	864100
C.R.D. #2016 Meal - 0 Mg/Kg	4&5 weeks	75720	174.7	597.4	12.9	71.04	268.9	885
Sodium Molybdate Dihydrate - 174.84 Mg/Kg	4&5 weeks	78860	181.9	688.2	14.28	72.21	292.5	70860
Sodium Molybdate Dihydrate - 607.74 Mg/Kg	4&5 weeks	82130	186.5	702.9	15.47	67.74	273.4	247100
Sodium Molybdate Dihydrate - 2142.47 Mg/Kg	4&5 weeks	88290	187.5	656.8	13.69	68.04	278.5	853500
C.R.D. #2016 Meal - 0 Mg/Kg	6&7 weeks	83310	178.4	667.2	16.76	75.55	278.9	1071
Sodium Molybdate Dihydrate - 192.58 Mg/Kg	6&7 weeks	83100	178.8	600.8	16.09	66.48	267.2	78030
Sodium Molybdate Dihydrate - 663.57 Mg/Kg	6&7 weeks	84310	179	585.4	13.63	66.5	269.2	267300
Sodium Molybdate Dihydrate - 2289.55 Mg/Kg	6&7 weeks	85470	185.8	606	14.07	67.84	268.9	909900

Justin Zychowski 10/4/11

**Study No.: 10-2225**

Sample Label	Description	Manganese (ng/g dry)	Iron (ug/g dry)	Cobalt (ng/g dry)	Copper (ug/g dry)	Zinc (ug/g dry)	Selenium (ng/g dry)	Molybdenum (ng/g dry)
C.R.D. #2016 Meal - 0 Mg/Kg	8&9 weeks	85300	178	743.2	15.79	76.95	260.1	973.2
Sodium Molybdate Dihydrate - 209.46 Mg/Kg	8&9 weeks	74950	167.6	697.1	12.61	81.91	252.4	85410
Sodium Molybdate Dihydrate - 746.11 Mg/Kg	8&9 weeks	76390	170.2	759.8	13.13	99.41	233	302100
Sodium Molybdate Dihydrate - 2532.72 Mg/Kg	8&9 weeks	77330	167.4	652.6	15.64	66.08	224.3	1012000
C.R.D. #2016 Meal - 0 Mg/Kg	10&11 weeks	87790	158.6	614.7	13	62.38	13	881.2
Sodium Molybdate Dihydrate - 217.32 Mg/Kg	10&11 weeks	80750	167.6	608.2	15.02	64.85	229.8	87390
Sodium Molybdate Dihydrate - 773.16 Mg/Kg	10&11 weeks	84210	174.9	693.2	12.85	68.25	12.85	313200
Sodium Molybdate Dihydrate - 2570.11 Mg/Kg	10&11 weeks	79000	184.9	712.2	13.96	76.55	237.1	1022000
C.R.D. #2016 Meal - 0 Mg/Kg	12&13 weeks	60550	85.04	420.5	10.39	59.46	193.8	963.6
Sodium Molybdate Dihydrate - 219.15 Mg/Kg	12&13 weeks	99310	130.7	769.1	13.66	70.79	282.6	88720
Sodium Molybdate Dihydrate - 812.01 Mg/Kg	12&13 weeks	75910	110.6	578.9	11.41	65.22	229	331000
Sodium Molybdate Dihydrate - 2550.88 Mg/Kg	12&13 weeks	97670	120	621.5	12.48	68.99	252.8	1009000
NIST 1568a Rice Flour	Control	17880	6.72	18.01	2.81	18.57	387.2	1504
NIST 1568a Rice Flour	Control	18240	7.14	17.45	2.74	19.78	354.9	1496
NIST 8433 Corn Bran	Control	25580	13.71	5.14	2.601	18.57	43.81	239.3
NIST 1568a Rice Flour	Control	19590	7.84	19.75	2.61	18.87	350.5	1452
NIST 1568a Rice Flour	Control	18890	6.925	18.7	2.499	19.11	365.7	1514
NIST 1568a Rice Flour	Control	19620	7.471	17.29	2.765	21.29	402.9	1509
NIST 1568a Rice Flour	Control	18590	7.494	18.23	2.703	21.06	406.9	1444
NIST 1568a Rice Flour	Control	16430	5.98	15.97	2.92	17.69	337.8	1769
NIST 1568a Rice Flour	Control	17450	6.45	16.58	2.79	18.67	361.7	1654
NIST 1568a Rice Flour	Control	17880	6.72	18.01	2.81	18.57	387.2	1504
NIST 1568a Rice Flour	Control	18240	7.14	17.45	2.74	19.78	354.9	1496

**Expected Control Result**

Sample Description		Manganese (ng/g dry)	Iron (ug/g dry)	Cobalt (ng/g dry)	Copper (ug/g dry)	Zinc (ug/g dry)	Selenium (ng/g dry)	Molybdenum (ng/g dry)
NIST 8433 Corn Bran	Control	25500	14.8		2.47	18.6	45	252
NIST 1568a Rice Flour	Control	20000	7.4	18	2.4	19.4	380	1460

Study No.: 10-2225

Animal ID	Specimen	Manganese (ng/mL)	Iron (ug/mL)	Cobalt (ng/mL)	Copper (ug/mL)	Zinc (ug/mL)	Selenium (ng/mL)	Molybdenum (ng/mL)	Mo Mean
1001 M	Serum - week 4	4.063	4.037	4.32	1.285	0.7674	506.3	17.64	
1002 M	Serum - week 4	3.35	4.568	4.066	1.056	0.8005	526.1	19.19	
1003 M	Serum - week 4	3.001	5.744	3.184	2.388	0.8566	505.2	13.83	
1004 M	Serum - week 4	4.106	5.523	3.797	1.396	0.9956	542.5	16.96	
1005 M	Serum - week 4	4.401	6.01	3.362	1.293	0.9286	570.2	15.59	
1006 M	Serum - week 4	2.967	4.057	4.302	1.174	0.8918	567.5	17.21	
1007 M	Serum - week 4	3.606	5.211	3.986	1.336	0.9294	566.8	16.96	
1009 M	Serum - week 4	3.343	7.304	4.112	1.244	0.7941	545.7	19.17	
1010 M	Serum - week 4	3.651	5.377	4.25	1.242	0.8699	606.8	19.45	
1011 M	Serum - week 4	2.731	3.71	4.863	1.177	0.8808	554	20.53	
1012 M	Serum - week 4	4.16	4.074	4.018	1.253	0.9071	589.8	17.41	
1013 M	Serum - week 4	3.638	5.42	4.362	1.305	0.8443	633.2	31.23	
1014 M	Serum - week 4	3.224	3.271	4.925	1.063	0.7112	533.6	20.73	
1015 M	Serum - week 4	3.538	4.784	3.493	1.314	0.9248	597.8	15.35	
1016 M	Serum - week 4	3.409	5.287	4.676	1.025	0.776	517.6	20.67	
1017 M	Serum - week 4	3.789	4.801	3.827	1.069	0.9196	631.5	15.52	
1018 M	Serum - week 4	4.339	6.997	4.072	1.275	0.8884	605.7	19.19	
1019 M	Serum - week 4	4.051	5.098	4.331	1.187	0.8129	557.9	21.12	
1020 M	Serum - week 4	3.602	8.784	3.669	1.089	0.9077	566.4	18.52	
1021 M	Serum - week 4	4.161	4.726	3.899	1.115	0.7868	614.9	18.21	18.724

Study No.: 10-2225

Animal ID	Specimen	Manganese (ng/mL)	Iron (ug/mL)	Cobalt (ng/mL)	Copper (ug/mL)	Zinc (ug/mL)	Selenium (ng/mL)	Molybdenum (ng/mL)	Mo Mean
1501 F	Serum - week 4	4.164	7.485	4.47	1.75	1.158	541.8	13.23	
1502 F	Serum - week 4	3.25	6.175	3.996	1.41	0.777	522.7	18.85	
1503 F	Serum - week 4	3.497	7.961	4.844	1.931	1.129	590.4	20	
1504 F	Serum - week 4	3.755	5.868	4.04	1.787	1.033	547.3	13.37	
1505 F	Serum - week 4	3.866	7.349	4.807	1.755	0.9553	559.5	15.59	
1506 F	Serum - week 4	2.263	7.618	4.232	2.093	0.9864	496.3	13.02	
1507 F	Serum - week 4	2.747	7.373	4.524	1.563	0.9302	494.6	14.95	
1508 F	Serum - week 4	2.814	7.215	3.879	1.772	0.8228	526	22.09	
1509 F	Serum - week 4	2.604	8.964	3.499	1.928	0.8972	587.2	16.76	
1510 F	Serum - week 4	3.119	9.629	4.422	1.712	1.006	580	22.21	
1511 F	Serum - week 4	3.207	8.151	4.172	1.61	1.016	465.2	14.92	
1512 F	Serum - week 4	2.341	6.51	4.138	1.848	0.9373	508.3	14.47	
1513 F	Serum - week 4	1.85	4.654	3.384	1.713	0.7326	526.1	14.21	
1514 F	Serum - week 4	2.885	7.269	4.614	1.733	0.9973	589.5	17.19	
1515 F	Serum - week 4	3.559	6.481	3.939	1.639	0.9113	566.8	19.34	
1516 F	Serum - week 4	3	5.55	4.244	1.869	0.897	478.9	15.93	
1517 F	Serum - week 4	3.896	10.99	3.781	2.154	0.7378	552.7	22.44	
1518 F	Serum - week 4	2.62	6.819	3.879	2.123	0.7379	491.3	61.63	
1519 F	Serum - week 4	2.873	8.085	3.957	1.479	0.7684	470.9	29.53	
1520 F	Serum - week 4	2.951	6.149	3.712	1.478	0.7324	531.6	17.5	19.8615

Study No.: 10-2225

Animal ID	Specimen	Manganese (ng/mL)	Iron (ug/mL)	Cobalt (ng/mL)	Copper (ug/mL)	Zinc (ug/mL)	Selenium (ng/mL)	Molybdenum (ng/mL)	Mo Mean
2001 M	Serum - week 4	4.589	7.251	5.11	1.599	1.123	597	806.4	
2002 M	Serum - week 4	5.386	4.534	5.193	1.761	0.8813	669	2047	
2003 M	Serum - week 4	4.511	10.16	4.292	1.708	0.8966	592.7	1123	
2004 M	Serum - week 4	4.033	4.62	3.944	1.315	0.8849	600.1	1292	
2005 M	Serum - week 4	4.23	6.548	4.402	1.438	1.016	682.3	1036	
2006 M	Serum - week 4	4.152	7.42	4.152	1.285	0.9378	653.2	1049	
2007 M	Serum - week 4	3.836	4.389	4.248	1.244	0.6937	619	1248	
2008 M	Serum - week 4	3.839	10.47	3.887	1.364	0.8063	594.5	1371	
2009 M	Serum - week 4	3.868	5.001	3.873	1.418	0.8261	551.8	1523	
2010 M	Serum - week 4	3.308	4.44	4.095	1.611	0.8154	517.1	1829	1332.44
2501 F	Serum - week 4	2.784	7.537	4.639	2.537	0.8014	529	1738	
2502 F	Serum - week 4	4.382	5.917	4.021	2.128	0.8838	488.8	1013	
2503 F	Serum - week 4	3.132	8.488	4.403	2.01	1.184	573.1	667	
2504 F	Serum - week 4	2.181	5.437	3.96	1.677	0.8937	556.3	941.6	
2505 F	Serum - week 4	2.633	8.026	4.499	1.974	1.044	479.6	510.7	
2506 F	Serum - week 4	3.392	6.011	4.199	1.849	1.186	551.5	636.5	
2507 F	Serum - week 4	2.748	6.224	4.679	1.621	1.014	596.5	911.3	
2508 F	Serum - week 4	2.571	8.009	3.517	1.907	0.9077	497.3	1090	
2509 F	Serum - week 4	3.452	6.241	3.797	1.941	1.076	505.3	579	
2510 F	Serum - week 4	1.887	7.977	5.127	2.091	0.6418	473	1832	991.91

Study No.: 10-2225

Animal ID	Specimen	Manganese (ng/mL)	Iron (ug/mL)	Cobalt (ng/mL)	Copper (ug/mL)	Zinc (ug/mL)	Selenium (ng/mL)	Molybdenum (ng/mL)	Mo Mean
3001 M	Serum - week 4	3.906	3.373	3.908	1.572	0.9546	633.6	4180	
3002 M	Serum - week 4	3.897	4.641	5.503	1.617	0.9032	584.9	4059	
3003 M	Serum - week 4	3.942	5.458	3.934	2.356	0.8251	643.7	5491	
3005 M	Serum - week 4	4.08	6.894	4.627	2.059	0.9459	636.9	4991	
3006 M	Serum - week 4	3.516	4.797	4.614	1.485	0.6911	599.4	3976	
3007 M	Serum - week 4	4.253	4.393	4.011	1.388	0.8149	639.5	4164	
3008 M	Serum - week 4	3.688	4.176	3.997	1.569	0.9212	551.9	4834	
3009 M	Serum - week 4	4.043	5.355	3.704	2.409	0.7603	552.4	5774	
3010 M	Serum - week 4	4.822	4.221	3.842	1.46	0.7611	574.1	4542	
3011 M	Serum - week 4	3.649	6.626	4.277	1.483	0.7065	521.7	4866	4687.7
3501 F	Serum - week 4	3.595	8.57	3.696	1.763	1.081	543.4	2964	
3502 F	Serum - week 4	3.813	7.556	4.452	2.086	1.002	566.5	3038	
3503 F	Serum - week 4	3.574	6.055	3.197	1.847	1.25	549.2	3279	
3504 F	Serum - week 4	2.09	8.193	4.034	1.936	0.9704	532.8	3072	
3505 F	Serum - week 4	3.806	12.69	3.825	1.946	0.7097	569.6	2827	
3506 F	Serum - week 4	3.204	5.12	3.747	2.35	0.9503	585.7	3513	
3507 F	Serum - week 4	4.614	6.693	4.022	2.061	1.048	589	3355	
3508 F	Serum - week 4	4.206	5.819	4.157	3.376	0.8723	480.4	5216	
3509 F	Serum - week 4	3.631	6.225	3.797	1.936	1.019	494.7	2772	
3510 F	Serum - week 4	3.474	6.879	3.972	1.916	0.9001	514.9	3669	3370.5



Study No.: 10-2225

Animal ID	Specimen	Manganese (ng/mL)	Iron (ug/mL)	Cobalt (ng/mL)	Copper (ug/mL)	Zinc (ug/mL)	Selenium (ng/mL)	Molybdenum (ng/mL)	Mo Mean
4001 M	Serum - week 4	3.945	5.351	3.902	3.977	1.041	663.1	13560	
4002 M	Serum - week 4	4.789	8.706	3.835	4.274	0.8695	624.6	18430	
4003 M	Serum - week 4	3.575	5.338	3.483	8.905	0.7972	607.5	24850	
4004 M	Serum - week 4	4.644	6.061	3.633	4.609	0.9202	631.1	15870	
4005 M	Serum - week 4	3.987	5.079	3.827	2.224	0.945	703.9	13000	
4006 M	Serum - week 4	4.075	5.416	4.787	1.612	0.7833	592.9	12290	
4007 M	Serum - week 4	4.075	7.627	3.809	6.905	0.8605	582.8	18890	
4009 M	Serum - week 4	4.376	7.096	3.48	2.323	0.9729	631.2	13040	
4010 M	Serum - week 4	3.448	4.983	4.104	3.775	0.9839	639.2	15100	
4011 M	Serum - week 4	4.37	5.21	3.039	2.084	0.9417	635.7	13170	
4012 M	Serum - week 4	4.112	4.904	3.376	4.084	0.9646	605.5	16220	
4013 M	Serum - week 4	3.59	4.807	3.613	4.2	0.7227	655	16450	
4014 M	Serum - week 4	5.041	8.617	3.812	4.015	1.364	692.6	13500	
4015 M	Serum - week 4	4.527	4.306	3.895	8.044	1.069	645.9	21080	
4016 M	Serum - week 4	3.478	4.091	3.319	1.556	0.7278	559.3	12620	
4017 M	Serum - week 4	4.112	5.248	3.399	3.632	1.001	614	13710	
4018 M	Serum - week 4	4.146	4.86	4.074	3.426	0.8518	489.4	13920	
4019 M	Serum - week 4	3.512	4.551	3.749	7.522	0.8553	585.8	22840	
4020 M	Serum - week 4	4.214	4.604	3.511	7.422	0.8544	587.5	20010	
4021 M	Serum - week 4	5.602	9.014	3.889	5.659	1.03	638.4	16990	16277

Study No.: 10-2225

Animal ID	Specimen	Manganese (ng/mL)	Iron (ug/mL)	Cobalt (ng/mL)	Copper (ug/mL)	Zinc (ug/mL)	Selenium (ng/mL)	Molybdenum (ng/mL)	Mo Mean
4501 F	Serum - week 4	3.555	5.26	5.356	2.571	0.9984	578	7087	
4502 F	Serum - week 4	3.022	7.342	3.907	4.275	0.729	555.1	14790	
4503 F	Serum - week 4	3.339	7.94	4.13	5.081	0.9034	546.2	15990	
4504 F	Serum - week 4	3.326	5.535	4.841	6.59	0.7845	487.3	16020	
4505 F	Serum - week 4	2.879	7.859	4.327	4.439	1.143	520.2	11070	
4506 F	Serum - week 4	2.668	10.19	3.491	5.287	1.052	585.4	14040	
4507 F	Serum - week 4	3.671	8.551	3.898	3.029	0.8664	583.4	11710	
4508 F	Serum - week 4	4.821	7.587	3.591	4.61	0.8318	469.9	15980	
4509 F	Serum - week 4	3	6.946	4.465	2.423	1	547.1	8065	
4510 F	Serum - week 4	3.266	6.012	2.928	2.76	0.8476	532.7	10640	
4511 F	Serum - week 4	4.374	6.784	3.317	2.878	0.9115	534.8	11920	
4512 F	Serum - week 4	3.081	5.272	3.4	2.689	0.8968	531.9	10700	
4513 F	Serum - week 4	4.29	8.498	3.872	7.457	0.8549	581.8	20290	
4514 F	Serum - week 4	3.503	7.463	3.808	3.931	0.9903	559.5	11710	
4515 F	Serum - week 4	3.807	4.92	2.946	2.387	0.9355	568.4	11310	
4516 F	Serum - week 4	3.251	6.069	3.245	4.251	0.9009	556.7	13590	
4517 F	Serum - week 4	3.315	5.518	3.156	10.78	0.88	493.2	20190	
4518 F	Serum - week 4	3.357	4.501	2.72	3.098	1.056	571.8	5986	
4519 F	Serum - week 4	3.546	7.237	4.76	4.134	0.7229	518.4	15040	
4520 F	Serum - week 4	3.236	5.487	3.248	7.581	0.7984	481	17400	13176.4

Study No.: 10-2225

	Specimen	Manganese (ng/mL)	Iron (ug/mL)	Cobalt (ng/mL)	Copper (ug/mL)	Zinc (ug/mL)	Selenium (ng/mL)	Molybdenum (ng/mL)
DCPAH QC-000040	Serum	3.133	1.37	0.401	0.3727	0.8693	50.63	7.672
DCPAH QC-000040	Serum	2.707	1.385	0.3839	0.3686	0.8573	51.93	7.736
DCPAH QC-000040	Serum	2.71	1.42	0.3857	0.3748	0.8749	52.69	7.877
DCPAH QC-000040	Serum	2.786	1.412	0.3949	0.369	0.8512	52.36	8.155
DCPAH QC-000040	Serum	3.256	1.487	0.3815	0.3782	0.8801	52.32	9.339
DCPAH QC-000040	Serum	3.116	1.423	0.3763	0.3765	0.8762	52.42	8.805
DCPAH QC-000200	Serum	0.9745	1.608	3.92	1.114	0.5829	202.1	30.27
DCPAH QC-000200	Serum	0.9549	1.585	3.943	1.116	0.5777	198.4	29.59
DCPAH QC-000200	Serum	0.9601	1.607	3.966	1.09	0.5617	201.8	28.81
DCPAH QC-000200	Serum	0.9637	1.591	3.858	1.101	0.5705	199.5	30.85
DCPAH QC-000200	Serum	1.091	1.596	3.651	1.085	0.5572	198.9	29.1
DCPAH QC-000200	Serum	1.141	1.595	3.871	1.073	0.5557	197.5	29.88

**Serum Control Target Values**

Sample Description	Sample Matrix	Manganese (ng/mL)	Iron (ug/mL)	Cobalt (ng/mL)	Copper (ug/mL)	Zinc (ug/mL)	Selenium (ng/mL)	Molybdenum (ng/mL)
DCPAH QC-000040	serum	2.6	2.45	0.43	0.38	0.89	53.46	7.9
DCPAH QC-000200	serum	1.00	1.91	2.70	1.17	0.59	210	30.5

Study No.: 10-2225

Animal ID	Specimen	Manganese (ng/mL)	Iron (ug/mL)	Cobalt (ng/mL)	Copper (ug/mL)	Zinc (ug/mL)	Selenium (ng/mL)	Molybdenum (ng/mL)	Mo Mean
1001 M	Serum - week 12	4.845	4.956	3.033	1.605	1.155	601.3	18.92	
1002 M	Serum - week 12	7.5	8.12	3.015	1.303	1.25	568.7	18.43	
1003 M	Serum - week 12	3.948	6.26	2.523	1.956	1.327	603.1	15.55	
1004 M	Serum - week 12	6.832	20.49	2.64	1.826	1.387	653	17.04	
1005 M	Serum - week 12	5.488	6.038	2.381	1.608	1.306	645	15.99	
1006 M	Serum - week 12	3.696	11.99	3.436	1.383	1.31	591.4	18.66	
1007 M	Serum - week 12	4.187	14.74	2.498	1.459	1.265	565.9	15.93	
1009 M	Serum - week 12	2.506	8.27	2.898	1.497	1.078	630.4	19.23	
1010 M	Serum - week 12	1.581	7.895	1.464	0.8364	0.7709	402.3	11.71	
1011 M	Serum - week 12	3.776	7.371	2.882	1.264	1.176	593.6	20.18	
1012 M	Serum - week 12	4.418	5.935	2.788	1.537	1.363	667.5	42.07	
1013 M	Serum - week 12	4.358	5.968	2.483	1.616	0.9289	733	33.96	
1014 M	Serum - week 12	5.628	6.555	3.397	1.347	1.297	689.6	18.23	
1015 M	Serum - week 12	5.145	6.834	2.362	1.832	1.408	757.4	15.85	
1016 M	Serum - week 12	4.772	9.557	2.526	1.286	1.336	630.4	21.82	
1017 M	Serum - week 12	3.985	7.027	2.369	1.224	1.347	715.8	15	
1018 M	Serum - week 12	3.698	4.873	2.656	1.332	1.177	610.2	16.94	
1019 M	Serum - week 12	5.311	6.147	3.699	1.568	1.324	684.1	23.87	
1020 M	Serum - week 12	4.414	7.444	2.341	1.325	1.273	682.2	19.1	
1021 M	Serum - week 12	1.954	6.352	1.341	0.746	0.5568	354.6	10.34	19.441

Study No.: 10-2225

Animal ID	Specimen	Manganese (ng/mL)	Iron (ug/mL)	Cobalt (ng/mL)	Copper (ug/mL)	Zinc (ug/mL)	Selenium (ng/mL)	Molybdenum (ng/mL)	Mo Mean
1501 F	Serum - week 12	5.202	6.171	3.515	2.013	1.404	545.6	14.21	
1502 F	Serum - week 12	3.202	7.16	3.214	1.589	1.255	522.9	18.37	
1503 F	Serum - week 12	2.385	8.753	4.291	1.979	1.052	553.3	22.72	
1504 F	Serum - week 12	4.238	7.429	3.908	1.956	1.237	547.1	14.17	
1505 F	Serum - week 12	3.871	9.696	3.556	1.996	1.41	568.8	16.79	
1506 F	Serum - week 12	1.522	6.273	2.436	2.034	1.187	485.1	12.67	
1507 F	Serum - week 12	6.301	7.599	3.411	1.61	1.22	480.7	15.11	
1508 F	Serum - week 12	3.707	11.27	3.091	2.321	1.088	552.7	25.86	
1509 F	Serum - week 12	4.458	12.9	3.811	2.071	1.608	652.5	18.73	
1510 F	Serum - week 12	3.477	8.106	3.507	1.819	1.242	568.9	20.25	
1511 F	Serum - week 12	4.125	7.867	3.412	2.12	1.353	518.1	17.8	
1512 F	Serum - week 12	2.402	8.029	3.509	2.027	1.301	528.2	24	
1513 F	Serum - week 12	7.955	9.412	3.147	1.939	1.224	561.8	19.53	
1514 F	Serum - week 12	3.011	7.253	4.229	1.97	1.095	594.5	19.53	
1515 F	Serum - week 12	3.293	6.434	2.842	1.751	1.243	571.2	19.56	
1516 F	Serum - week 12	2.931	5.925	3.55	1.917	1.156	466.3	15.98	
1517 F	Serum - week 12	2.847	7.968	2.797	2.02	0.9859	508.8	17.55	
1518 F	Serum - week 12	3.205	9.718	4.205	2.571	1.175	511.2	15.78	
1519 F	Serum - week 12	2.266	5.575	2.976	1.721	1.082	466	14.16	
1520 F	Serum - week 12	4.065	7.573	2.998	1.662	1.144	531.3	15.87	17.932

Study No.: 10-2225

Animal ID	Specimen	Manganese (ng/mL)	Iron (ug/mL)	Cobalt (ng/mL)	Copper (ug/mL)	Zinc (ug/mL)	Selenium (ng/mL)	Molybdenum (ng/mL)	Mo Mean
2001 M	Serum - week 12	4.681	18.34	2.779	1.588	1.273	601.6	1154	
2002 M	Serum - week 12	5.528	7.121	2.732	1.65	1.126	642.6	1663	
2003 M	Serum - week 12	8.945	6.158	2.542	2.088	1.28	639.6	1440	
2004 M	Serum - week 12	3.138	4.242	1.732	2	1.101	672	1335	
2005 M	Serum - week 12	3.231	13.95	2.388	1.707	1.309	747	1285	
2006 M	Serum - week 12	3.969	8.031	2.397	1.492	1.408	725.3	1011	
2007 M	Serum - week 12	4.63	8.385	2.739	1.573	1.203	715.2	1051	
2008 M	Serum - week 12	1.655	8.364	1.923	1.308	0.8348	461.9	1321	
2009 M	Serum - week 12	3.562	12.46	2.584	1.566	1.154	609.5	1605	
2010 M	Serum - week 12	1.392	6.643	1.958	1.205	0.8097	376.4	1226	1309.1
2501 F	Serum - week 12	1.688	8.559	4.738	2.823	1.084	440.4	2247	
2502 F	Serum - week 12	2.866	10.72	3.216	2.161	1.296	472	766.3	
2503 F	Serum - week 12	3.421	6.907	2.807	1.627	1.207	475.9	1094	
2504 F	Serum - week 12	1.589	7.017	2.919	2.017	1.102	545.1	1175	
2505 F	Serum - week 12	1.581	9.462	4.046	1.962	1.178	465.1	722.4	
2506 F	Serum - week 12	2.178	8.549	3.017	1.907	1.359	477.3	879.6	
2507 F	Serum - week 12	1.837	7.555	3.516	1.665	1.077	492.6	844.9	
2508 F	Serum - week 12	1.643	7.998	3.696	2.291	1.161	568.2	1310	
2509 F	Serum - week 12	2.762	14.08	3.287	2.22	1.33	511.9	791	
2510 F	Serum - week 12	2.242	10.52	2.751	1.919	1.112	563	1383	1121.32

Study No.: 10-2225

Animal ID	Specimen	Manganese (ng/mL)	Iron (ug/mL)	Cobalt (ng/mL)	Copper (ug/mL)	Zinc (ug/mL)	Selenium (ng/mL)	Molybdenum (ng/mL)	Mo Mean
3001 M	Serum - week 12	3.813	11.58	2.241	1.104	1.034	486.2	3205	
3002 M	Serum - week 12	3.657	6.745	2.946	2.408	1.224	597.2	5094	
3003 M	Serum - week 12	3.381	6.643	2.603	3.055	1.064	638	5902	
3005 M	Serum - week 12	2.02	19.2	1.562	1.199	1.044	430.7	2280	
3006 M	Serum - week 12	1.758	15.48	3.375	2.51	1.491	817.6	4291	
3007 M	Serum - week 12	1.086	8.507	2.905	1.919	1.338	778.2	3885	
3008 M	Serum - week 12	5.558	21.54	2.879	2.463	1.44	611.5	5853	
3009 M	Serum - week 12	1.275	9.877	2.726	2.939	1.048	615.1	8139	
3010 M	Serum - week 12	2.42	16.29	2.297	1.583	1.374	649.6	3515	
3011 M	Serum - week 12	1.082	12.92	2.715	1.82	1.193	603.1	4579	4674.3
3501 F	Serum - week 12	2.587	10.53	2.804	1.816	1.382	501.2	3743	
3502 F	Serum - week 12	1.196	8.954	4.054	2.261	1.291	555.8	4373	
3503 F	Serum - week 12	1.584	10.91	3.033	1.992	1.382	529.4	3036	
3504 F	Serum - week 12	4.374	12.69	4.629	2.239	1.282	559.4	2747	
3505 F	Serum - week 12	2.905	10.02	4.218	2.547	0.8726	545.2	4821	
3506 F	Serum - week 12	1.922	7.396	3.078	2.531	1.161	554.4	3952	
3507 F	Serum - week 12	1.353	8.658	4.051	2.577	1.208	598.8	5321	
3508 F	Serum - week 12	3.232	11.17	3.463	4.054	1.316	587.5	5585	
3509 F	Serum - week 12	5.895	9.057	3.846	3.583	1.236	540.9	5438	
3510 F	Serum - week 12	1.953	8.953	2.396	2.025	1.215	520.4	4101	4311.7

Study No.: 10-2225

Animal ID	Specimen	Manganese (ng/mL)	Iron (ug/mL)	Cobalt (ng/mL)	Copper (ug/mL)	Zinc (ug/mL)	Selenium (ng/mL)	Molybdenum (ng/mL)	Mo Mean
4001 M	Serum - week 12	1.724	22.56	2.832	4.652	1.288	666.5	17780	
4002 M	Serum - week 12	3.456	13.67	2.634	4.036	1.189	636.1	12640	
4003 M	Serum - week 12	4.441	5.694	2.155	8.287	0.9883	606.1	22740	
4004 M	Serum - week 12	1.967	9.366	2.36	4.971	1.22	682.6	17380	
4005 M	Serum - week 12	1.433	11.1	2.334	3.801	1.156	760.1	15770	
4006 M	Serum - week 12	2.873	4.691	2.477	2.349	0.9887	637.6	14010	
4007 M	Serum - week 12	4.621	31.97	2.463	8.518	1.256	642.9	21210	
4009 M	Serum - week 12	2.207	34.79	2.6	3.424	1.364	685.1	13950	
4010 M	Serum - week 12	5.705	14.78	2.829	8.793	1.203	676.4	20000	
4011 M	Serum - week 12	9.452	12.22	2.457	3.206	1.115	739.7	14200	
4012 M	Serum - week 12	2.911	7.826	2.577	4.374	0.9877	577.7	18000	
4013 M	Serum - week 12	7.118	7.725	2.363	4.653	0.7561	685.1	19350	
4014 M	Serum - week 12	2.44	11.01	2.247	3.414	1.696	744.4	13580	
4015 M	Serum - week 12	2.044	13.07	3.839	12.72	1.301	695.7	28380	
4017 M	Serum - week 12	1.425	10.33	2.359	4.212	1.396	710.5	16200	
4018 M	Serum - week 12	3.145	10	2.489	4.038	1.164	565.9	17380	
4019 M	Serum - week 12	9.084	10.41	2.933	5.067	1.271	653.6	19750	
4020 M	Serum - week 12	2.103	17.24	2.485	8.474	1.179	637.5	23170	
4021 M	Serum - week 12	7.825	12.06	2.379	10.97	1.301	673.9	25960	18497.37



Study No.: 10-2225

Animal ID	Specimen	Manganese (ng/mL)	Iron (ug/mL)	Cobalt (ng/mL)	Copper (ug/mL)	Zinc (ug/mL)	Selenium (ng/mL)	Molybdenum (ng/mL)	Mo Mean
4501 F	Serum - week 12	5.402	7.99	3.949	4.687	1.076	559.5	14860	
4502 F	Serum - week 12	3.62	6.777	2.78	3.438	0.8519	462.4	17490	
4503 F	Serum - week 12	2.497	10.17	3.766	5.298	1.152	521.7	14350	
4504 F	Serum - week 12	8.408	7.697	4.753	8.076	0.888	468.6	19750	
4505 F	Serum - week 12	3.705	10.37	3.48	4.449	1.491	502.9	9194	
4506 F	Serum - week 12	2.929	8.31	2.864	5.257	1.086	544.4	14820	
4507 F	Serum - week 12	6.686	14.42	3.789	5.102	1.469	644.7	10330	
4508 F	Serum - week 12	3.306	7.392	1.974	3.93	1.052	486.4	15830	
4509 F	Serum - week 12	9.1	9.947	3.641	3.891	1.247	555	8491	
4510 F	Serum - week 12	3.066	7.041	2.06	3.588	1.026	540.2	13740	
4511 F	Serum - week 12	2.407	11.96	3.343	6.49	1.505	611.5	13750	
4512 F	Serum - week 12	1.941	8.192	3.944	3.661	1.027	550.4	14120	
4513 F	Serum - week 12	5.336	14.66	8.203	18.62	1.252	657.2	32890	
4514 F	Serum - week 12	1.991	11.98	3.105	4.803	1.281	485.5	10450	
4515 F	Serum - week 12	5.709	10.57	2.365	3.114	1.136	568.7	11050	
4516 F	Serum - week 12	5.101	10.02	3.078	9.285	1.144	531.7	16260	
4517 F	Serum - week 12	1.742	10.87	3.737	17.4	1.218	506.4	25870	
4518 F	Serum - week 12	3.442	18.79	2.548	3.705	1.301	616.7	9380	
4519 F	Serum - week 12	2.536	10.51	4.55	8.232	0.931	528.8	17590	
4520 F	Serum - week 12	5.426	8.748	2.925	9.497	1.035	463	20420	15531.75

Study No.: 10-2225

Animal ID	Specimen	Manganese (ng/mL)	Iron (ug/mL)	Cobalt (ng/mL)	Copper (ug/mL)	Zinc (ug/mL)	Selenium (ng/mL)	Molybdenum (ng/mL)
DCPAH QC-000040	Serum	2.767	2.442	0.4332	0.3746	0.8743	52.16	8.172
DCPAH QC-000040	Serum	2.608	2.537	0.4367	0.3643	0.853	53.69	8.336
DCPAH QC-000040	Serum	2.681	2.525	0.4341	0.3645	0.8481	53.13	8.226
DCPAH QC-000040	Serum	2.674	2.606	0.4369	0.3525	0.8333	53.25	8.822
DCPAH QC-000200	Serum	0.9574	1.71	2.648	1.18	0.5419	203.4	37.1
DCPAH QC-000200	Serum	0.9366	1.724	2.58	1.154	0.5349	204.7	36.9
DCPAH QC-000200	Serum	1.195	1.94	3.156	1.143	0.5326	204.7	36.8
DCPAH QC-000200	Serum	1.047	1.915	2.467	1.144	0.5357	204.8	37.59

**Serum Control Target Values**

Sample Description	Sample Matrix	Manganese (ng/mL)	Iron (ug/mL)	Cobalt (ng/mL)	Copper (ug/mL)	Zinc (ug/mL)	Selenium (ng/mL)	Molybdenum (ng/mL)
DCPAH QC-000040	serum	2.6	2.45	0.43	0.38	0.89	53.46	7.9
DCPAH QC-000200	serum	1.00	1.91	2.70	1.17	0.59	210	30.5

Study No.: 10-2225

**WHOLE BLOOD ANALYSIS**

Animal ID	Specimen	Manganese (ng/mL)	Iron (ug/mL)	Cobalt (ng/mL)	Copper (ug/mL)	Zinc (ug/mL)	Selenium (ng/mL)	Molybdenum (ng/mL)	Mo Mean
1001 M	Blood - week 12	7.748	455.2	2.07	1.196	4.804	615.8	12.68	
1002 M	Blood - week 12	5.073	392.6	1.654	0.817	4.157	485	10.44	
1003 M	Blood - week 12	7.821	505.1	1.697	1.332	5.605	613.7	11.38	
1004 M	Blood - week 12	8.661	566.8	1.681	1.251	6.392	630.1	10.83	
1005 M	Blood - week 12	10.14	562.4	1.774	1.095	5.859	604.3	9.888	
1006 M	Blood - week 12	6.212	450.4	2.167	0.9896	4.681	572.4	12.49	
1007 M	Blood - week 12	7.04	455.4	1.759	1.079	4.952	576.3	10.43	
1009 M	Blood - week 12	8.29	527.8	2.092	1.141	5.172	633.2	13.64	
1010 M	Blood - week 12	8.634	600.9	1.875	1.03	6.04	643.8	12.7	
1021 M	Blood - week 12	8.977	583.7	2.346	1.257	5.792	763.2	15.21	11.9688
1501 F	Blood - week 12	14.24	542.5	3.022	1.424	5.537	553.4	9.723	
1502 F	Blood - week 12	7.273	580.9	2.179	1.164	5.996	579.2	11.64	
1503 F	Blood - week 12	5.531	533	2.9	1.286	5.257	524.2	13.56	
1504 F	Blood - week 12	9.472	571.9	2.605	1.353	6.279	594.8	8.828	
1505 F	Blood - week 12	7.288	582.8	2.484	1.306	5.973	566.2	10.76	
1506 F	Blood - week 12	5.991	561.3	1.902	1.543	6.148	538.5	9.236	
1507 F	Blood - week 12	5.728	571.4	2.882	1.196	6.018	531.8	9.563	
1508 F	Blood - week 12	5.714	450.6	2.047	1.525	5.028	532.6	16.2	
1509 F	Blood - week 12	6.283	623.8	2.648	1.236	6.317	605.5	10.31	
1510 F	Blood - week 12	5.488	484.5	2.129	1.126	4.929	524.7	11.27	11.109

Study No.: 10-2225

**WHOLE BLOOD ANALYSIS**

Animal ID	Specimen	Manganese (ng/mL)	Iron (ug/mL)	Cobalt (ng/mL)	Copper (ug/mL)	Zinc (ug/mL)	Selenium (ng/mL)	Molybdenum (ng/mL)	Mo Mean
2001 M	Blood - week 12	8.447	521.9	1.906	1.152	5.124	600.9	815.5	
2002 M	Blood - week 12	8.949	517.2	2.032	1.198	5.688	662.9	1130	
2003 M	Blood - week 12	9.899	592.9	1.539	1.197	5.814	583.1	931.5	
2004 M	Blood - week 12	7.464	527.8	1.663	1.34	5.555	633.1	929.5	
2005 M	Blood - week 12	7.536	516.2	1.609	0.9706	5.14	561.5	686.5	
2006 M	Blood - week 12	5.877	486.9	1.387	0.8385	5.027	569.2	547.1	
2007 M	Blood - week 12	8.302	586.5	1.805	1.067	5.95	680.9	727.4	
2008 M	Blood - week 12	8.499	594.3	1.942	1.183	6.239	640.9	1134	
2009 M	Blood - week 12	7.02	543.5	1.817	1.127	5.69	600	1113	
2010 M	Blood - week 12	7.701	617.8	2.29	1.141	6.252	617.3	1110	912.45
2501 F	Blood - week 12	6.237	541.8	3.457	1.924	5.385	534.8	1526	
2502 F	Blood - week 12	5.942	512.5	2.42	1.254	5.252	429.5	456.5	
2503 F	Blood - week 12	4.191	491	1.773	1.152	5.318	479.7	696.4	
2504 F	Blood - week 12	5.786	566.1	1.892	1.254	5.47	547.8	728.6	
2505 F	Blood - week 12	4.359	453.1	2.615	1.225	4.675	439.2	441.2	
2506 F	Blood - week 12	5.7	599.9	2.108	1.101	6.142	449.1	495.5	
2507 F	Blood - week 12	5.415	539.9	2.814	1.268	5.607	563.8	617.6	
2508 F	Blood - week 12	5.974	463.6	2.359	1.392	4.841	506.8	738.2	
2509 F	Blood - week 12	5.348	474.8	1.984	1.381	4.923	489	512.9	
2510 F	Blood - week 12	6.277	516.9	2.016	1.412	5.672	605.9	991	720.39

Study No.: 10-2225

**WHOLE BLOOD ANALYSIS**

Animal ID	Specimen	Manganese (ng/mL)	Iron (ug/mL)	Cobalt (ng/mL)	Copper (ug/mL)	Zinc (ug/mL)	Selenium (ng/mL)	Molybdenum (ng/mL)	Mo Mean
3001 M	Blood - week 12	7.746	530.1	1.853	0.8985	5.409	510.1	2378	
3002 M	Blood - week 12	5.128	430.2	1.645	1.22	4.555	466.9	2490	
3003 M	Blood - week 12	8.971	557.4	1.948	1.825	5.814	634	3754	
3005 M	Blood - week 12	4.439	390.3	1.449	1.063	4.136	526.9	1948	
3006 M	Blood - week 12	9.63	630.6	2.214	1.398	6.284	669.7	2940	
3007 M	Blood - week 12	8.285	608.2	1.657	1.163	6.058	667.9	2553	
3008 M	Blood - week 12	7.504	544.7	1.677	1.282	5.769	526.9	3364	
3009 M	Blood - week 12	8.452	539.5	2.187	1.457	5.286	551.7	4353	
3010 M	Blood - week 12	7.994	535.9	1.554	0.8943	5.408	557.8	2092	
3011 M	Blood - week 12	7.512	537.5	1.954	1.282	5.53	632.2	3432	2930.4
3501 F	Blood - week 12	6.657	423.7	1.722	1.131	4.53	478.7	2343	
3502 F	Blood - week 12	6.766	496.4	2.406	1.279	5.125	523.7	2553	
3503 F	Blood - week 12	8.404	604.1	1.844	1.225	6.138	566.9	1905	
3504 F	Blood - week 12	5.503	609.1	2.981	1.352	5.99	575.5	1824	
3505 F	Blood - week 12	7.36	531.3	2.668	1.465	5.206	542.6	3190	
3506 F	Blood - week 12	6.421	527.4	2.004	1.519	5.371	543	2632	
3507 F	Blood - week 12	7.569	560.6	2.082	1.166	5.54	475.8	2954	
3508 F	Blood - week 12	12.01	570.3	2.477	1.814	5.755	495.6	3091	
3509 F	Blood - week 12	5.481	502.1	1.838	1.78	5.156	500.7	3017	
3510 F	Blood - week 12	7.07	556	1.681	1.277	5.938	520.6	2772	2628.1

Study No.: 10-2225

**WHOLE BLOOD ANALYSIS**

Animal ID	Specimen	Manganese (ng/mL)	Iron (ug/mL)	Cobalt (ng/mL)	Copper (ug/mL)	Zinc (ug/mL)	Selenium (ng/mL)	Molybdenum (ng/mL)	Mo Mean
4001 M	Blood - week 12	6.887	512.5	1.744	2.155	5.231	568.3	9910	
4002 M	Blood - week 12	8.799	543.6	1.603	1.794	5.467	564.3	6947	
4003 M	Blood - week 12	6.313	543.4	1.355	3.16	5.311	511.2	11370	
4004 M	Blood - week 12	8.258	548.5	1.522	2.147	5.402	577.1	9532	
4005 M	Blood - week 12	7.039	586.1	1.455	1.899	5.643	656.9	9479	
4006 M	Blood - week 12	7.419	508.7	1.593	1.145	4.759	513.3	8111	
4007 M	Blood - week 12	5.383	427.7	1.471	3.719	4.12	524.3	11020	
4009 M	Blood - week 12	8.595	534.3	1.529	1.686	5.237	560.5	7718	
4010 M	Blood - week 12	6.335	565.3	1.668	2.345	5.584	522.5	9863	
4021 M	Blood - week 12	6.051	400.7	1.619	5.279	4.365	601.9	15080	9903
4501 F	Blood - week 12	8.257	574.9	2.13	1.864	5.547	453.9	7661	
4502 F	Blood - week 12	7.713	514.6	2.368	2.104	5.209	505.1	12340	
4503 F	Blood - week 12	6.901	596.6	2.134	2.098	5.714	497.7	7125	
4504 F	Blood - week 12	5.356	534.8	2.698	3.418	5.342	456.9	10310	
4505 F	Blood - week 12	19.87	558	1.969	1.974	5.653	441	4946	
4506 F	Blood - week 12	4.615	489.1	1.924	2.381	4.93	478.4	8497	
4507 F	Blood - week 12	5.25	501.7	1.864	2.224	4.907	519.7	5395	
4508 F	Blood - week 12	7.639	532.6	1.475	1.744	5.344	452.1	8531	
4509 F	Blood - week 12	5.104	526.5	2.063	1.848	5.186	489.6	4512	
4510 F	Blood - week 12	5.86	566.7	1.566	1.709	5.531	530.8	8045	7736.2

Study No.: 10-2225

**RECOVERY GROUP**

ANIMAL ID	Specimen	Manganese (ng/g)	Iron (ug/g)	Cobalt (ng/g)	Copper (ug/g)	Zinc (ug/g)	Selenium (ng/g)	Molybdenum (ng/g)	Mo Mean
1011 M	Serum day 2	3.986	5.152	2.15	1.137	1.119	534	18.04	
1012 M	Serum day 2	5.186	8.608	2.297	1.708	1.334	667	15.52	
1013 M	Serum day 2	5.787	11.56	2.702	1.446	1.137	638.3	32.45	
1014 M	Serum day 2	6.399	6.436	2.672	1.34	1.269	721	18.21	
1015 M	Serum day 2	7.01	8.676	2.345	1.908	1.628	793.1	15.41	
1016 M	Serum day 2	6.074	5.459	2.411	5.273	1.301	626.7	20.22	
1017 M	Serum day 2	6.571	6.206	2.857	1.316	1.278	765.8	16.6	
1018 M	Serum day 2	5.683	4.412	2.067	2.037	1.361	648.2	17.38	
1019 M	Serum day 2	5.651	8.444	2.994	1.618	1.409	711.2	18.85	
1020 M	Serum day 2	6.066	5.82	1.826	1.311	1.354	713.2	18.31	19.099
1511 F	Serum day 2	5.665	9.031	2.777	2.151	1.825	517.7	12.22	
1512 F	Serum day 2	3.921	8.303	5.288	2.025	0.9976	541.4	13.87	
1513 F	Serum day 2	4.374	4.836	2.688	1.776	1.274	532.5	12.57	
1514 F	Serum day 2	4.796	5.665	3.944	1.783	1.397	584	16.3	
1515 F	Serum day 2	4.798	5.685	2.799	1.776	1.109	571	17.61	
1516 F	Serum day 2	4.978	5.807	3.952	2.129	1.202	496.6	14.17	
1517 F	Serum day 2	4.933	5.448	3.13	2.035	1.129	523.4	17.42	
1518 F	Serum day 2	5.494	7.344	3.824	3.298	1.307	487.8	14.22	
1519 F	Serum day 2	5.386	5.471	3.168	1.719	1.239	504.6	15.17	
1520 F	Serum day 2	4.699	9.92	2.842	1.624	1.043	551.6	17.8	15.135

Study No.: 10-2225

**RECOVERY GROUP**

ANIMAL ID	Specimen	Manganese (ng/g)	Iron (ug/g)	Cobalt (ng/g)	Copper (ug/g)	Zinc (ug/g)	Selenium (ng/g)	Molybdenum (ng/g)	Mo Mean
4011 M	Serum day 2	5.357	6.594	2.234	2.686	1.107	708.2	2191	
4012 M	Serum day 2	4.562	6.621	2.682	3.999	1.011	595.8	4278	
4013 M	Serum day 2	4.569	10.03	2.289	3.421	0.817	644.4	3516	
4014 M	Serum day 2	6.914	5.029	2.233	2.298	1.371	672.9	1261	
4015 M	Serum day 2	7.228	7.163	2.406	6.777	1.188	625.9	8629	
4017 M	Serum day 2	6.341	6.837	2.338	3.913	1.312	699.2	3749	
4018 M	Serum day 2	7.66	19.84	2.465	3.469	1.245	577.6	3020	
4019 M	Serum day 2	5.402	11.84	3.021	5.034	1.388	725.6	5678	
4020 M	Serum day 2	5.601	5.362	2.715	5.625	0.9141	582.1	7117	4382.111
4511 F	Serum day 2	6.207	5.626	2.985	3.716	1.107	522.3	2688	
4512 F	Serum day 2	4.169	5.267	2.862	2.938	1.254	548.7	1558	
4513 F	Serum day 2	4.751	12.33	3.808	12.19	1.127	602.5	15750	
4514 F	Serum day 2	4.385	6.836	2.878	3.395	1.174	474.7	2343	
4515 F	Serum day 2	3.574	4.465	2.164	2.591	1.163	540.4	1265	
4516 F	Serum day 2	4.171	7.023	2.354	6.221	1.285	558.9	7086	
4517 F	Serum day 2	4.629	7.977	3.329	9.815	1.071	503.2	12850	
4518 F	Serum day 2	3.976	8.851	3.19	14.25	0.9685	606.6	2724	
4519 F	Serum day 2	4.485	8.488	3.112	5.61	1.507	546.3	5378	
4520 F	Serum day 2	2.862	9.327	3.373	9.483	0.951	451.6	12830	6447.2



Study No.: 10-2225

**RECOVERY GROUP**

ANIMAL ID	Specimen	Manganese (ng/g)	Iron (ug/g)	Cobalt (ng/g)	Copper (ug/g)	Zinc (ug/g)	Selenium (ng/g)	Molybdenum (ng/g)	Mo Mean
1011 M	Serum day 7	4.884	6.563	2.592	1.314	1.26	631.3	22.12	
1012 M	Serum day 7	5.87	8.587	2.798	1.715	1.243	717.9	19.27	
1013 M	Serum day 7	7.277	6.455	2.6	1.68	1.015	717.2	33.78	
1014 M	Serum day 7	7.907	6.621	2.848	1.512	1.374	782.6	18.32	
1015 M	Serum day 7	7.387	7.725	2.317	1.833	1.399	787	18.05	
1016 M	Serum day 7	5.798	6.716	2.061	1.178	1.131	601.9	20.8	
1017 M	Serum day 7	5.804	5.745	2.306	1.311	1.116	710.9	16.77	
1018 M	Serum day 7	6.798	9.157	2.078	1.579	1.334	671.8	17.86	
1019 M	Serum day 7	7.071	7.775	2.52	1.463	1.222	642.3	20.58	
1020 M	Serum day 7	6.524	7.9	2.089	1.304	1.314	704.4	18.69	20.624
1511 F	Serum day 7	5.619	9.07	3.369	1.893	1.296	509.3	22.49	
1512 F	Serum day 7	3.902	9.044	5.164	2.049	1.029	514.9	18.66	
1513 F	Serum day 7	4.625	7.686	3.361	1.742	1.268	541.2	13.12	
1514 F	Serum day 7	5.183	8.978	4.558	1.777	1.567	605.5	17.61	
1515 F	Serum day 7	4.946	8.312	3.139	1.781	1.035	551.5	17.78	
1516 F	Serum day 7	4.514	8.931	4.507	2	1.185	534.1	17.77	
1517 F	Serum day 7	5.316	7.32	3.368	2.109	0.9771	519.1	18.86	
1518 F	Serum day 7	4.779	7.244	2.971	2.266	1.205	449.9	173.1	
1519 F	Serum day 7	3.816	7.357	3.769	1.776	1.161	541.9	17.16	
1520 F	Serum day 7	4.031	10.38	3.85	1.676	1.132	579.3	17.13	33.368

Study No.: 10-2225

**RECOVERY GROUP**

ANIMAL ID	Specimen	Manganese (ng/g)	Iron (ug/g)	Cobalt (ng/g)	Copper (ug/g)	Zinc (ug/g)	Selenium (ng/g)	Molybdenum (ng/g)	Mo Mean
4011 M	Serum day 7	5.156	6.526	2.245	2.143	1.105	693.7	1273	
4012 M	Serum day 7	4.68	10.82	2.75	2.83	0.974	568.2	2284	
4013 M	Serum day 7	4.619	9.1	2.474	2.654	0.9417	672.2	2183	
4014 M	Serum day 7	6.967	13.61	2.251	2.119	1.557	699	780.1	
4015 M	Serum day 7	5.126	8.325	2.324	4.1	1.184	612.6	4339	
4017 M	Serum day 7	5.797	6.785	2.574	2.741	1.259	666.5	2102	
4018 M	Serum day 7	4.801	6.152	2.358	2.663	1.049	528.3	1695	
4019 M	Serum day 7	4.197	4.755	3.082	3.132	1.161	671.3	3300	
4020 M	Serum day 7	5.653	6.444	2.662	3.901	1.192	654.1	3874	2425.567
4511 F	Serum day 7	6.722	7.156	4.053	3.066	1.389	574	1508	
4512 F	Serum day 7	5.098	6.149	3.025	2.357	1.059	492	801.5	
4513 F	Serum day 7	5.559	9.086	4.411	5.666	1.144	601.1	5936	
4514 F	Serum day 7	2.629	4.663	1.712	1.358	0.5901	232.4	613.1	
4515 F	Serum day 7	5.353	9.579	2.264	2.208	1.234	551	695.2	
4516 F	Serum day 7	4.355	6.486	4.209	3.919	1.173	561.3	3564	
4517 F	Serum day 7	5.573	6.694	3.695	5.392	1.125	506.2	5523	
4518 F	Serum day 7	3.261	11.57	3.225	2.628	0.9708	589.7	1376	
4519 F	Serum day 7	4.394	8.989	5.031	3.654	1.119	497.6	2628	
4520 F	Serum day 7	4.757	6.329	3.636	5.333	1.258	476.3	5774	2841.88

Study No.: 10-2225

**RECOVERY GROUP**

ANIMAL ID	Specimen	Manganese (ng/g)	Iron (ug/g)	Cobalt (ng/g)	Copper (ug/g)	Zinc (ug/g)	Selenium (ng/g)	Molybdenum (ng/g)
DCPAH QC-000040	Serum	2.591	2.444	0.3763	0.3545	0.8805	53.32	8.208
DCPAH QC-000040	Serum	2.414	2.445	0.3382	0.3465	0.8713	53.26	8.268
DCPAH QC-000040	Serum	2.563	2.433	0.3697	0.3461	0.8829	52.68	8.139
DCPAH QC-000200	Serum	1.102	1.911	2.907	1.016	0.5625	202.3	30.97
DCPAH QC-000200	Serum	1.083	1.935	2.773	1.024	0.5693	203.4	30.57
DCPAH QC-000200	Serum	1.033	1.843	2.552	1.031	0.5761	204.6	30.13
DCPAH QC-000200	Serum	1.057	1.831	2.796	1.009	0.5735	204.1	30.37

**Serum Control Target  
Values**

Sample Description	Sample Matrix	Manganese (ng/mL)	Iron (ug/mL)	Cobalt (ng/mL)	Copper (ug/mL)	Zinc (ug/mL)	Selenium (ng/mL)	Molybdenum (ng/mL)
DCPAH QC-000040	serum	2.6	2.45	0.43	0.38	0.89	53.46	7.9
DCPAH QC-000200	serum	1.00	1.91	2.70	1.17	0.59	210	30.5

**Study No.: 10-2225**

Animal ID	Tissue	Manganese (ug/g dry)	Iron (ug/g dry)	Cobalt (ug/g dry)	Copper (ug/g dry)	Zinc (ug/g dry)	Selenium (ug/g dry)	Molybdenum (ug/g dry)	Mo Mean
1001	Liver	14.81	937	376	19.00	110	3.38	2.57	
1002	Liver	9.12	770	404	18.08	118	3.20	2.22	
1003	Liver	11.29	790	309	19.20	109	3.30	2.36	
1004	Liver	13.27	580	394	18.25	108	3.09	2.09	
1005	Liver	7.02	467	250	13.55	73	2.85	2.16	
1006	Liver	8.57	684	394	17.11	93	3.35	2.39	
1007	Liver	8.70	751	436	18.14	114	3.52	2.18	
1009	Liver	17.77	874	371	15.39	78	2.92	1.99	
1010	Liver	7.65	1134	230	14.65	103	2.83	1.95	
1021	Liver	9.01	786	358	16.25	102	3.33	2.28	2.22
1501	Liver	11.65	1402	321	22.12	99	4.58	2.76	
1502	Liver	9.60	1792	290	15.83	90	4.32	1.98	
1503	Liver	10.55	1774	322	18.95	105	4.43	3.01	
1504	Liver	9.71	2186	357	22.13	114	4.45	2.29	
1505	Liver	11.44	1516	277	17.57	99	4.07	2.30	
1506	Liver	8.95	1863	225	19.03	103	4.11	2.59	
1507	Liver	17.17	1608	299	17.79	81	4.03	2.37	
1508	Liver	27.75	1659	334	18.76	94	3.73	2.34	
1509	Liver	22.34	1807	305	18.65	96	4.29	2.41	
1510	Liver	24.33	1822	342	21.28	113	4.40	2.50	2.45

**Study No.: 10-2225**

Animal ID	Tissue	Manganese (ug/g dry)	Iron (ug/g dry)	Cobalt (ug/g dry)	Copper (ug/g dry)	Zinc (ug/g dry)	Selenium (ug/g dry)	Molybdenum (ug/g dry)	Mo Mean
2001	Liver	10.26	807	388	17.22	99	3.31	2.42	
2002	Liver	11.40	756	428	19.77	111	3.26	2.56	
2003	Liver	11.69	844	470	18.97	116	3.92	3.13	
2004	Liver	9.29	848	336	16.53	122	3.08	2.45	
2005	Liver	8.15	949	273	18.84	100	3.15	2.16	
2006	Liver	10.01	677	396	20.13	113	3.29	2.32	
2007	Liver	11.56	590	333	20.29	106	3.81	2.52	
2008	Liver	8.71	686	367	18.91	119	3.32	2.87	
2009	Liver	7.99	574	314	16.97	99	3.10	2.43	2.54
2010	Liver	7.32	970	427	27.05	99	3.00	2.45	
2501	Liver	11.16	2082	310	32.52	120	5.07	4.37	
2502	Liver	9.65	1862	304	27.24	111	4.74	3.07	
2503	Liver	9.65	1722	334	24.29	120	5.06	3.48	
2504	Liver	9.56	2003	225	21.00	125	4.75	3.49	
2505	Liver	8.92	1863	419	24.37	122	4.69	3.06	
2506	Liver	17.62	2205	363	21.07	117	4.82	3.56	
2507	Liver	15.86	1684	294	22.68	115	5.20	3.68	
2508	Liver	22.75	1382	392	22.20	110	4.84	3.35	
2509	Liver	13.22	1593	284	21.18	108	4.75	2.96	
2510	Liver	10.50	2420	315	21.92	128	4.94	4.08	3.41

**Study No.: 10-2225**

Animal ID	Tissue	Manganese (ug/g dry)	Iron (ug/g dry)	Cobalt (ug/g dry)	Copper (ug/g dry)	Zinc (ug/g dry)	Selenium (ug/g dry)	Molybdenum (ug/g dry)	Mo Mean
3001	Liver	8.47	975	258	15.12	105	3.16	3.56	
3002	Liver	9.84	1089	393	19.09	108	3.33	4.61	
3003	Liver	10.40	855	428	26.18	111	3.86	7.18	
3005	Liver	10.72	800	446	19.08	124	3.73	3.13	
3006	Liver	9.43	855	377	16.28	103	3.34	3.28	
3007	Liver	9.60	1123	332	17.05	107	3.25	3.11	
3008	Liver	8.67	854	250	19.88	118	3.64	4.51	
3009	Liver	10.43	756	367	17.84	106	3.59	3.57	
3010	Liver	9.06	757	403	19.39	121	3.70	3.53	
3011	Liver	10.84	935	358	17.79	109	3.59	3.53	4.00
3501	Liver	9.13	1778	294	36.70	134	5.81	4.84	
3502	Liver	9.35	1707	392	28.12	114	4.95	4.90	
3503	Liver	10.33	2163	265	27.74	133	5.18	4.25	
3504	Liver	9.50	2674	301	21.93	123	5.10	4.85	
3505	Liver	8.09	1883	446	26.07	112	4.96	5.20	
3506	Liver	9.31	1939	332	22.49	125	5.07	3.96	
3507	Liver	10.95	1457	414	20.86	115	5.03	5.04	
3508	Liver	14.16	1688	483	24.94	125	4.41	5.71	
3509	Liver	10.21	2139	329	24.20	114	4.70	6.01	
3510	Liver	10.03	1688	263	18.55	110	4.42	4.47	4.92

**Study No.: 10-2225**

Animal ID	Tissue	Manganese (ug/g dry)	Iron (ug/g dry)	Cobalt (ug/g dry)	Copper (ug/g dry)	Zinc (ug/g dry)	Selenium (ug/g dry)	Molybdenum (ug/g dry)	Mo Mean
4001	Liver	8.15	1111	390	22.62	98	3.66	8.89	
4002	Liver	10.07	1262	530	24.27	109	3.91	10.20	
4003	Liver	8.53	791	303	33.68	92	2.83	18.58	
4004	Liver	10.38	955	301	23.78	115	3.57	9.62	
4005	Liver	8.39	832	338	19.62	97	3.08	6.66	
4006	Liver	9.49	934	451	20.41	122	3.61	4.58	
4007	Liver	9.72	855	330	31.49	99	3.19	16.30	
4009	Liver	8.26	1018	310	17.65	96	3.02	8.04	
4010	Liver	9.16	771	311	27.52	106	3.49	11.10	
4016	Liver	5.22	831	312	12.44	63	2.80	17.29	
4021	Liver	13.40	1026	316	42.19	114	3.30	20.92	12.02
4501	Liver	12.43	2406	560	39.08	137	4.95	15.30	
4502	Liver	10.76	2606	349	35.93	133	5.39	14.15	
4503	Liver	11.10	1914	409	38.97	131	5.55	15.10	
4504	Liver	15.78	1385	413	52.45	123	4.74	19.51	
4505	Liver	12.19	2213	296	31.90	140	4.38	10.04	
4506	Liver	12.69	1399	409	41.31	122	5.03	16.58	
4507	Liver	12.15	2014	374	32.76	123	5.12	8.96	
4508	Liver	11.75	1683	308	30.28	117	4.79	11.24	
4509	Liver	9.23	1916	316	30.25	117	4.78	8.83	
4510	Liver	8.98	1927	234	30.31	109	4.31	10.19	12.99

**Study No.: 10-2225**

Animal ID	Tissue	Manganese (ug/g dry)	Iron (ug/g dry)	Cobalt (ug/g dry)	Copper (ug/g dry)	Zinc (ug/g dry)	Selenium (ug/g dry)	Molybdenum (ug/g dry)	Mo Mean
1001	Kidney	4.76	2195	524	35.80	91	6.10	1.23	
1002	Kidney	5.03	504	710	20.26	80	4.72	0.77	
1003	Kidney	2.68	373	615	17.20	60	4.40	0.69	
1004	Kidney	6.64	462	801	20.93	80	5.25	0.87	
1005	Kidney	3.75	478	826	40.22	89	6.17	1.01	
1006	Kidney	2.44	665	711	22.57	66	4.84	0.79	
1007	Kidney	3.59	476	1098	43.53	103	6.98	1.05	
1009	Kidney	5.00	756	638	21.54	67	4.99	0.85	
1010	Kidney	19.97	660	750	36.53	91	6.19	0.97	
1021	Kidney	10.97	696	1112	43.33	89	6.61	1.05	0.93
1501	Kidney	3.47	490	934	63.95	80	4.70	0.77	
1502	Kidney	5.83	577	1876	52.05	109	6.59	1.06	
1503	Kidney	21.27	742	1601	51.31	101	5.77	1.10	
1504	Kidney	6.22	419	1004	30.26	67	4.36	0.73	
1505	Kidney	2.94	439	1200	38.04	73	5.06	0.89	
1506	Kidney	6.71	618	1093	48.52	93	5.53	0.90	
1507	Kidney	3.59	630	1398	35.96	85	5.31	1.03	
1508	Kidney	41.07	571	1583	47.47	97	5.94	1.08	
1509	Kidney	2.79	453	1192	25.89	70	4.67	0.84	
1510	Kidney	19.05	542	1958	41.93	94	5.36	0.95	0.94



**Study No.: 10-2225**

Animal ID	Tissue	Manganese (ug/g dry)	Iron (ug/g dry)	Cobalt (ug/g dry)	Copper (ug/g dry)	Zinc (ug/g dry)	Selenium (ug/g dry)	Molybdenum (ug/g dry)	Mo Mean
2001	Kidney	4.14	503	1163	23.36	80	5.75	1.66	
2002	Kidney	23.54	543	789	29.04	89	4.99	2.37	
2003	Kidney	7.98	653	796	30.17	90	6.02	2.20	
2004	Kidney	10.29	513	940	35.39	86	6.67	2.00	
2005	Kidney	4.30	544	780	24.66	91	5.90	1.62	
2006	Kidney	4.73	482	770	23.46	92	6.41	1.46	
2007	Kidney	3.19	488	965	31.14	91	6.19	1.82	
2008	Kidney	3.48	470	1067	36.55	92	6.61	3.39	
2009	Kidney	3.69	436	984	35.27	87	6.69	2.62	
2010	Kidney	3.16	441	1244	42.25	89	5.74	3.86	2.30
2501	Kidney	3.53	777	1648	119.20	106	5.45	10.92	
2502	Kidney	3.84	750	1233	78.99	104	5.59	2.45	
2503	Kidney	3.97	576	1546	77.85	102	6.05	3.56	
2504	Kidney	3.93	660	1757	53.35	106	6.32	3.14	
2505	Kidney	4.12	620	1951	67.25	100	6.53	2.24	
2506	Kidney	4.44	601	1659	33.51	96	5.34	2.18	
2507	Kidney	5.72	613	1232	44.45	96	5.75	2.18	
2508	Kidney	3.80	567	1980	46.76	100	6.16	4.28	
2509	Kidney	25.31	618	1478	65.65	104	5.79	1.88	
2510	Kidney	14.58	660	1523	56.42	112	6.74	5.45	3.83

**Study No.: 10-2225**

Animal ID	Tissue	Manganese (ug/g dry)	Iron (ug/g dry)	Cobalt (ug/g dry)	Copper (ug/g dry)	Zinc (ug/g dry)	Selenium (ug/g dry)	Molybdenum (ug/g dry)	Mo Mean
3001	Kidney	4.06	809	919	36.00	95	5.86	5.95	
3002	Kidney	4.37	920	1149	44.98	94	6.73	11.06	
3003	Kidney	4.30	536	755	69.77	82	5.63	25.94	
3005	Kidney	4.24	681	788	26.29	182	5.73	6.54	
3006	Kidney	4.95	577	1126	31.10	97	6.73	4.50	
3007	Kidney	4.52	1002	987	30.84	94	6.66	5.74	
3008	Kidney	4.65	627	991	50.65	98	6.65	10.13	
3009	Kidney	4.30	549	984	48.32	86	6.79	16.28	
3010	Kidney	3.99	491	1515	28.47	84	6.13	4.72	
3011	Kidney	4.70	444	885	30.56	90	6.44	4.30	9.52
3501	Kidney	4.05	617	1594	66.62	120	7.28	10.44	
3502	Kidney	4.15	548	1576	68.41	104	6.39	12.27	
3503	Kidney	4.01	689	2660	55.26	116	7.21	6.62	
3504	Kidney	4.22	706	1769	43.42	108	6.73	7.71	
3505	Kidney	4.50	685	1694	126.90	123	7.10	15.23	
3506	Kidney	3.64	590	1173	48.90	98	5.54	4.51	
3507	Kidney	4.00	669	1550	69.94	110	6.45	8.98	
3508	Kidney	4.27	633	1655	66.89	107	6.07	16.08	
3509	Kidney	3.41	641	1550	76.57	107	5.94	17.87	
3510	Kidney	3.62	642	1873	47.64	106	6.57	9.67	10.94

**Study No.: 10-2225**

Animal ID	Tissue	Manganese (ug/g dry)	Iron (ug/g dry)	Cobalt (ug/g dry)	Copper (ug/g dry)	Zinc (ug/g dry)	Selenium (ug/g dry)	Molybdenum (ug/g dry)	Mo Mean
4001	Kidney	4.49	616	750	65.41	89	6.26	28.36	
4002	Kidney	3.14	602	870	66.37	86	6.22	30.54	
4003	Kidney	3.72	623	727	120.90	88	5.78	61.18	
4004	Kidney	4.13	563	857	71.91	88	6.16	32.04	
4005	Kidney	3.44	504	687	49.48	81	5.58	18.95	
4006	Kidney	3.79	513	799	32.89	77	5.33	10.73	
4007	Kidney	3.74	763	578	108.00	84	6.23	58.59	
4009	Kidney	3.68	1040	685	56.30	85	5.87	22.53	
4010	Kidney	3.37	666	774	71.71	77	5.35	35.00	
4016	Kidney	3.95	783	950	38.35	80	5.44	58.40	
4021	Kidney	5.40	721	595	217.40	92	7.26	118.70	43.18
4501	Kidney	6.25	685	1332	126.50	107	6.51	52.95	
4502	Kidney	5.91	701	1513	127.60	115	6.00	42.60	
4503	Kidney	6.83	624	1494	165.40	107	6.39	68.53	
4504	Kidney	5.69	664	1787	283.40	115	7.28	124.60	
4505	Kidney	6.24	819	1445	114.70	106	6.49	41.06	
4506	Kidney	4.78	529	1344	156.80	104	6.43	69.46	
4507	Kidney	5.86	623	1167	89.73	98	6.01	37.01	
4508	Kidney	4.49	607	1278	109.00	117	6.38	40.67	
4509	Kidney	6.91	645	1708	91.92	104	6.61	33.54	
4510	Kidney	7.61	674	1195	122.10	107	5.95	39.98	55.04

**Study No.: 10-2225**

	Tissue	Manganese (ug/g dry)	Iron (ug/g dry)	Cobalt (ug/g dry)	Copper (ug/g dry)	Zinc (ug/g dry)	Selenium (ug/g dry)	Molybdenum (ug/g dry)
NIST SRM 1577c - Bovine Liver	Control	9.101	190.4	324.3	300.1	177.7	1.97	3.33
NIST SRM 1577c - Bovine Liver	Control	11.11	192.1	324.1	304.5	181.8	2.00	3.38
NIST SRM 1577c - Bovine Liver	Control	11.07	193.9	307.4	299.4	179.5	2.01	3.40
NIST SRM 1577c - Bovine Liver	Control	12.16	193	297.2	297.3	179.6	1.99	3.37
NIST SRM 1577c - Bovine Liver	Control	12.76	194.4	306	295.6	178.8	2.02	3.39
NIST SRM 1577c - Bovine Liver	Control	10.69	191.6	304.1	289	177.2	1.98	3.35
NIST SRM 1577c - Bovine Liver	Control	11.6	191.4	293.5	293.2	178.6	1.99	3.34
NIST SRM 1577c - Bovine Liver	Control	12.19	191.7	307	297.1	180.4	1.98	3.33
NIST SRM 1577c - Bovine Liver	Control	12.68	190.9	306.1	295.4	179.6	2.00	3.36
NIST SRM 1577c - Bovine Liver	Control	10.59	194.8	289.2	287.6	177.5	1.99	3.33
NIST SRM 1577c - Bovine Liver	Control	10.82	192.8	291.8	291.7	179.6	1.98	3.34
NIST SRM 1577c - Bovine Liver	Control	11.48	194	298	298.5	182.9	1.97	3.32
NIST SRM 1577c - Bovine Liver	Control	11.54	193.8	290	288.1	177.3	1.97	3.34
NIST SRM 1577c - Bovine Liver	Control	11.55	194.9	290.4	291	179.7	1.99	3.33
NIST SRM 1577c - Bovine Liver	Control	11.62	195.7	306.2	289.6	179.8	2.00	3.33

**Liver Control Target Values**

Sample Description	Sample Matrix	Manganese (ug/g dry)	Iron (ug/g dry)	Cobalt (ug/g dry)	Copper (ug/g dry)	Zinc (ug/g dry)	Selenium (ug/g dry)	Molybdenum (ug/g dry)
NIST SRM 1577c - Bovine Liver	Control	10.46	197.94	300	275.2	181.1	2.031	3.3

Study No.: 10-2225

**RECOVERY GROUP**

Animal ID	Tissue	Manganese (ug/g dry)	Iron (ug/g dry)	Cobalt (ug/g dry)	Copper (ug/g dry)	Zinc (ug/g dry)	Selenium (ug/g dry)	Molybdenum (ug/g dry)	Mo Mean
1011	Liver	5.607	709.2	210.7	14.06	86.1	3.057	1.758	
1012	Liver	7.023	882.3	188.9	17.24	100.9	3.863	2.485	
1013	Liver	7.001	706.9	310.7	18.09	89.81	3.467	2.209	
1014	Liver	5.262	450.8	124.4	10.31	72.16	2.054	1.252	
1015	Liver	5.644	792.8	174.8	12.83	84.99	2.712	1.755	
1016	Liver	5.994	612.8	215.5	15.22	87.21	2.765	1.793	
1017	Liver	4.577	489.3	131.2	11.36	77.08	2.494	1.5	
1018	Liver	6.223	668.9	201.3	15.58	104.5	3.559	2.185	
1019	Liver	5.053	560.4	171.8	12.82	63.62	2.532	1.572	
1020	Liver	8.692	753.7	281.1	17.21	99.45	4.331	2.296	1.88
1511	Liver	10.01	1537	177.1	20.36	119	5.471	3.045	
1512	Liver	8.363	2493	198.6	20.03	111.4	4.805	2.517	
1513	Liver	7.131	2224	282.1	19.63	108.3	4.832	2.688	
1514	Liver	8.069	1611	240.2	17.96	104.7	5.059	2.902	
1515	Liver	7.984	1537	276.2	19.17	111.5	4.584	2.773	
1516	Liver	7.357	1537	278.8	19.98	107.8	5.085	2.717	
1517	Liver	8.506	2047	335.3	21.12	122.7	5.393	2.642	
1518	Liver	7.693	1395	272.4	20.83	115.2	4.662	2.619	
1519	Liver	8.047	1228	292.8	16.74	99.73	4.673	2.8	
1520	Liver	6.427	1748	279.3	15.79	91.68	4.567	2.417	2.71

Study No.: 10-2225

**RECOVERY GROUP**

Animal ID	Tissue	Manganese (ug/g dry)	Iron (ug/g dry)	Cobalt (ug/g dry)	Copper (ug/g dry)	Zinc (ug/g dry)	Selenium (ug/g dry)	Molybdenum (ug/g dry)	Mo Mean
4011	Liver	7.488	574.2	241.3	15.75	93.81	3.18	1.741	
4012	Liver	7.864	1066	226.5	16.01	94.57	3.154	2.362	
4013	Liver	8.329	714.1	305.5	16.13	101.3	3.582	2.485	
4014	Liver	8.001	718.5	180.8	16.01	99.75	3.595	2.332	
4015	Liver	9.015	584.8	295.6	15.36	95.73	2.98	2.766	
4017	Liver	7.916	671.2	192.1	14.91	97.5	3.438	2.406	
4018	Liver	5.715	692.4	178.1	12.05	70.55	2.382	1.668	
4019	Liver	7.802	592.2	249.6	15.06	92.75	3.412	2.391	
4020	Liver	6.386	677.5	282.2	15	81.6	3.009	2.526	2.30
4511	Liver	7.507	1469	197.8	18.18	92.47	3.967	2.885	
4512	Liver	7.946	1042	172.4	15.62	83.71	4.035	2.342	
4513	Liver	7.641	1758	282.4	28.19	94.08	4.308	8.184	
4514	Liver	8.873	1542	357.6	24.36	112.8	4.629	3.981	
4515	Liver	10.32	1409	140.1	18.27	105.4	4.403	3.22	
4516	Liver	8.393	1871	258.4	21.67	123.7	5.076	4.065	
4517	Liver	9.245	1762	250.5	31.3	103.5	4.693	8.421	
4518	Liver	6.467	1982	269.3	18.93	98.08	4.957	2.589	
4519	Liver	7.517	2160	265.3	22.68	100	4.693	3.523	
4520	Liver	7.65	1760	188.7	24.2	83.26	4.381	6.54	4.58

Study No.: 10-2225

**RECOVERY GROUP**

Animal ID	Tissue	Manganese (ug/g dry)	Iron (ug/g dry)	Cobalt (ug/g dry)	Copper (ug/g dry)	Zinc (ug/g dry)	Selenium (ug/g dry)	Molybdenum (ug/g dry)	Mo Mean
1011	Kidney	2.552	586.8	547.7	18.82	71.61	5.292	0.8841	
1012	Kidney	2.16	507.6	620.2	22.82	61.55	4.49	0.7356	
1013	Kidney	2.527	331.2	967.6	50.04	76.42	4.481	0.9585	
1014	Kidney	2.442	519.5	420.8	15.73	59.98	4.268	0.7291	
1015	Kidney	2.176	959.2	488.4	20.35	59.55	4.485	0.7536	
1016	Kidney	2.047	721	482.7	16.46	61.37	4.561	0.7689	
1017	Kidney	2.627	1062	549.9	25.62	78.31	5.982	1.073	
1018	Kidney	3.037	924.4	661.9	30.91	86.23	6.335	1.01	
1019	Kidney	3.633	689	850.4	27.92	87.16	6.748	1.132	
1020	Kidney	2.8	556.8	584.3	34.38	90.42	6.654	1.027	0.91
1511	Kidney	3.352	573.2	1178	96.3	105.1	6.281	1.125	
1512	Kidney	3.4	696.3	1005	30.19	86.01	4.796	0.9581	
1513	Kidney	2.604	541	1222	36.82	79.55	5.041	0.8222	
1514	Kidney	3.439	555.3	2580	44.25	102.9	6.196	1.055	
1515	Kidney	2.983	518.5	1107	35.67	85.69	5.572	1.027	
1516	Kidney	3.177	616.1	1356	55.02	98.64	5.772	0.9558	
1517	Kidney	2.337	411.1	669.9	32.32	68.13	4.094	0.6022	
1518	Kidney	2.683	442.4	1491	39.68	87.58	5.357	0.9598	
1519	Kidney	3.624	527.1	1610	37.19	96.39	7.175	1.098	
1520	Kidney	3.138	588.2	1271	31	86.7	5.914	1.062	0.97

Study No.: 10-2225

**RECOVERY GROUP**

Animal ID	Tissue	Manganese (ug/g dry)	Iron (ug/g dry)	Cobalt (ug/g dry)	Copper (ug/g dry)	Zinc (ug/g dry)	Selenium (ug/g dry)	Molybdenum (ug/g dry)	Mo Mean
4011	Kidney	3.693	590.8	836.9	40.61	90.68	6.5	2.066	
4012	Kidney	3.197	1326	358.5	27.62	81.43	5.167	2.576	
4013	Kidney	3.09	547.1	762.9	21.81	78.58	5.902	2.273	
4014	Kidney	3.943	636	1242	55.18	109.5	6.592	5.852	
4015	Kidney	3.315	474.6	732.3	58.51	88.17	6.36	13.91	
4017	Kidney	3.522	600.6	692.1	37.66	84.64	6.899	5.953	
4018	Kidney	2.761	542.7	511.4	24.69	66.57	4.412	2.422	
4019	Kidney	3.397	620.8	841.2	56.29	87.64	7.435	9.633	
4020	Kidney	2.879	459.3	843.7	68.11	76.44	6.275	18.69	7.04
4511	Kidney	3.592	586	1155	47	91.94	5.774	4.627	
4512	Kidney	2.891	610.8	1319	57.39	91.3	4.929	2.865	
4513	Kidney	2.992	568.1	1143	114.2	84.05	4.878	39.34	
4514	Kidney	3.519	569	658.5	28.08	85.52	4.914	1.61	
4515	Kidney	3.772	484.2	969.7	36.24	88.97	4.976	2.179	
4516	Kidney	3.188	516.6	1088	69.32	95.08	5.74	14.47	
4517	Kidney	3.546	685	1505	146.8	107.9	6.177	52.8	
4518	Kidney	3.571	604.4	1014	38.53	92.78	5.915	3.38	
4519	Kidney	3.381	667.8	1247	96.22	102	5.801	15.26	
4520	Kidney	3.156	562.8	967	109.5	91.66	5.317	32.07	16.86



Study No.: 10-2225

**RECOVERY GROUP**

	Tissue	Manganese (ug/g dry)	Iron (ug/g dry)	Cobalt (ug/g dry)	Copper (ug/g dry)	Zinc (ug/g dry)	Selenium (ug/g dry)	Molybdenum (ug/g dry)
NIST SRM 1577c - Bovine Liver	Control	9.365	186.6	287.5	277.5	167	1.94	3.477
NIST SRM 1577c - Bovine Liver	Control	9.444	189.3	305.5	290	174	1.942	3.507
NIST SRM 1577c - Bovine Liver	Control	9.742	187.4	301.9	284.5	172.4	1.933	3.438
NIST SRM 1577c - Bovine Liver	Control	10.2	188.2	293.1	287.4	175	1.926	3.514
NIST SRM 1577c - Bovine Liver	Control	10.36	187.3	304	282.8	172.1	1.937	3.453
NIST SRM 1577c - Bovine Liver	Control	10.45	186.2	295.9	285.5	174	1.922	3.458
NIST SRM 1577c - Bovine Liver	Control	10.69	189.9	306.5	286.3	174.7	1.973	3.483
NIST SRM 1577c - Bovine Liver	Control	10.73	186.9	303.1	282.3	173.1	1.92	3.457

**Liver Control Target Values**

Sample Description	Sample Matrix	Manganese (ug/g dry)	Iron (ug/g dry)	Cobalt (ug/g dry)	Copper (ug/g dry)	Zinc (ug/g dry)	Selenium (ug/g dry)	Molybdenum (ug/g dry)
NIST SRM 1577c - Bovine Liver	Control	10.46	197.94	300	275.2	181.1	2.031	3.3

Males		Individual Animal Termination History		Appendix B
Animal Number	Date of Death	Type of Death	Phase	Phase Day <sup>a</sup>
Group 1 - 0 mg Mo/kg bw/day				
1001	25 Jan 11	Terminal sacrifice	DOSING PHASE	92
1002	25 Jan 11	Terminal sacrifice	DOSING PHASE	92
1003	25 Jan 11	Terminal sacrifice	DOSING PHASE	92
1004	25 Jan 11	Terminal sacrifice	DOSING PHASE	92
1005	25 Jan 11	Terminal sacrifice	DOSING PHASE	92
1006	25 Jan 11	Terminal sacrifice	DOSING PHASE	92
1007	25 Jan 11	Terminal sacrifice	DOSING PHASE	92
1009	25 Jan 11	Terminal sacrifice	DOSING PHASE	92
1010	25 Jan 11	Terminal sacrifice	DOSING PHASE	92
1011	25 Mar 11	Recovery sacrifice	RECOVERY PHASE	60
1012	25 Mar 11	Recovery sacrifice	RECOVERY PHASE	60
1013	25 Mar 11	Recovery sacrifice	RECOVERY PHASE	60
1014	25 Mar 11	Recovery sacrifice	RECOVERY PHASE	60
1015	25 Mar 11	Recovery sacrifice	RECOVERY PHASE	60
1016	25 Mar 11	Recovery sacrifice	RECOVERY PHASE	60
1017	25 Mar 11	Recovery sacrifice	RECOVERY PHASE	60
1018	25 Mar 11	Recovery sacrifice	RECOVERY PHASE	60
1019	25 Mar 11	Recovery sacrifice	RECOVERY PHASE	60
1020	25 Mar 11	Recovery sacrifice	RECOVERY PHASE	60
1021	25 Jan 11	Terminal sacrifice	DOSING PHASE	92
Group 2 - 5 mg Mo/kg bw/day				
2001	25 Jan 11	Terminal sacrifice	DOSING PHASE	92
2002	25 Jan 11	Terminal sacrifice	DOSING PHASE	92
2003	25 Jan 11	Terminal sacrifice	DOSING PHASE	92
2004	25 Jan 11	Terminal sacrifice	DOSING PHASE	92
2005	25 Jan 11	Terminal sacrifice	DOSING PHASE	92
2006	25 Jan 11	Terminal sacrifice	DOSING PHASE	92
2007	25 Jan 11	Terminal sacrifice	DOSING PHASE	92
2008	25 Jan 11	Terminal sacrifice	DOSING PHASE	92
2009	25 Jan 11	Terminal sacrifice	DOSING PHASE	92
2010	25 Jan 11	Terminal sacrifice	DOSING PHASE	92

<sup>a</sup>First day of each phase defined as Day 1. First day of test article administration defined as Dosing Day 1

Males		Individual Animal Termination History		Appendix B
Animal Number	Date of Death	Type of Death	Phase	Phase Day <sup>a</sup>
Group 3 - 17 mg Mo/kg bw/day				
3001	25 Jan 11	Terminal sacrifice	DOSING PHASE	92
3002	25 Jan 11	Terminal sacrifice	DOSING PHASE	92
3003	25 Jan 11	Terminal sacrifice	DOSING PHASE	92
3005	25 Jan 11	Terminal sacrifice	DOSING PHASE	92
3006	25 Jan 11	Terminal sacrifice	DOSING PHASE	92
3007	25 Jan 11	Terminal sacrifice	DOSING PHASE	92
3008	25 Jan 11	Terminal sacrifice	DOSING PHASE	92
3009	25 Jan 11	Terminal sacrifice	DOSING PHASE	92
3010	25 Jan 11	Terminal sacrifice	DOSING PHASE	92
3011	25 Jan 11	Terminal sacrifice	DOSING PHASE	92
Group 4 - 60 mg Mo/kg bw/day				
4001	25 Jan 11	Terminal sacrifice	DOSING PHASE	92
4002	25 Jan 11	Terminal sacrifice	DOSING PHASE	92
4003	25 Jan 11	Terminal sacrifice	DOSING PHASE	92
4004	25 Jan 11	Terminal sacrifice	DOSING PHASE	92
4005	25 Jan 11	Terminal sacrifice	DOSING PHASE	92
4006	25 Jan 11	Terminal sacrifice	DOSING PHASE	92
4007	25 Jan 11	Terminal sacrifice	DOSING PHASE	92
4009	25 Jan 11	Terminal sacrifice	DOSING PHASE	92
4010	25 Jan 11	Terminal sacrifice	DOSING PHASE	92
4011	25 Mar 11	Recovery sacrifice	RECOVERY PHASE	60
4012	25 Mar 11	Recovery sacrifice	RECOVERY PHASE	60
4013	25 Mar 11	Recovery sacrifice	RECOVERY PHASE	60
4014	25 Mar 11	Recovery sacrifice	RECOVERY PHASE	60
4015	25 Mar 11	Recovery sacrifice	RECOVERY PHASE	60
4016	11 Dec 10	Found dead	DOSING PHASE	47
4017	25 Mar 11	Recovery sacrifice	RECOVERY PHASE	60
4018	25 Mar 11	Recovery sacrifice	RECOVERY PHASE	60
4019	25 Mar 11	Recovery sacrifice	RECOVERY PHASE	60
4020	25 Mar 11	Recovery sacrifice	RECOVERY PHASE	60
4021	25 Jan 11	Terminal sacrifice	DOSING PHASE	92

<sup>a</sup>First day of each phase defined as Day 1. First day of test article administration defined as Dosing Day 1

Females		Individual Animal Termination History		Appendix B
Animal Number	Date of Death	Type of Death	Phase	Phase Day <sup>a</sup>
Group 1 - 0 mg Mo/kg bw/day				
1501	26 Jan 11	Terminal sacrifice	DOSING PHASE	93
1502	26 Jan 11	Terminal sacrifice	DOSING PHASE	93
1503	26 Jan 11	Terminal sacrifice	DOSING PHASE	93
1504	26 Jan 11	Terminal sacrifice	DOSING PHASE	93
1505	26 Jan 11	Terminal sacrifice	DOSING PHASE	93
1506	26 Jan 11	Terminal sacrifice	DOSING PHASE	93
1507	26 Jan 11	Terminal sacrifice	DOSING PHASE	93
1508	26 Jan 11	Terminal sacrifice	DOSING PHASE	93
1509	26 Jan 11	Terminal sacrifice	DOSING PHASE	93
1510	26 Jan 11	Terminal sacrifice	DOSING PHASE	93
1511	25 Mar 11	Recovery sacrifice	RECOVERY PHASE	60
1512	25 Mar 11	Recovery sacrifice	RECOVERY PHASE	60
1513	25 Mar 11	Recovery sacrifice	RECOVERY PHASE	60
1514	25 Mar 11	Recovery sacrifice	RECOVERY PHASE	60
1515	25 Mar 11	Recovery sacrifice	RECOVERY PHASE	60
1516	25 Mar 11	Recovery sacrifice	RECOVERY PHASE	60
1517	25 Mar 11	Recovery sacrifice	RECOVERY PHASE	60
1518	25 Mar 11	Recovery sacrifice	RECOVERY PHASE	60
1519	25 Mar 11	Recovery sacrifice	RECOVERY PHASE	60
1520	25 Mar 11	Recovery sacrifice	RECOVERY PHASE	60
Group 2 - 5 mg Mo/kg bw/day				
2501	26 Jan 11	Terminal sacrifice	DOSING PHASE	93
2502	26 Jan 11	Terminal sacrifice	DOSING PHASE	93
2503	26 Jan 11	Terminal sacrifice	DOSING PHASE	93
2504	26 Jan 11	Terminal sacrifice	DOSING PHASE	93
2505	26 Jan 11	Terminal sacrifice	DOSING PHASE	93
2506	26 Jan 11	Terminal sacrifice	DOSING PHASE	93
2507	26 Jan 11	Terminal sacrifice	DOSING PHASE	93
2508	26 Jan 11	Terminal sacrifice	DOSING PHASE	93
2509	26 Jan 11	Terminal sacrifice	DOSING PHASE	93
2510	26 Jan 11	Terminal sacrifice	DOSING PHASE	93

<sup>a</sup>First day of each phase defined as Day 1. First day of test article administration defined as Dosing Day 1

Females		Individual Animal Termination History		Appendix B
Animal Number	Date of Death	Type of Death	Phase	Phase Day <sup>a</sup>
Group 3 - 17 mg Mo/kg bw/day				
3501	26 Jan 11	Terminal sacrifice	DOSING PHASE	93
3502	26 Jan 11	Terminal sacrifice	DOSING PHASE	93
3503	26 Jan 11	Terminal sacrifice	DOSING PHASE	93
3504	26 Jan 11	Terminal sacrifice	DOSING PHASE	93
3505	26 Jan 11	Terminal sacrifice	DOSING PHASE	93
3506	26 Jan 11	Terminal sacrifice	DOSING PHASE	93
3507	26 Jan 11	Terminal sacrifice	DOSING PHASE	93
3508	26 Jan 11	Terminal sacrifice	DOSING PHASE	93
3509	26 Jan 11	Terminal sacrifice	DOSING PHASE	93
3510	26 Jan 11	Terminal sacrifice	DOSING PHASE	93
Group 4 - 60 mg Mo/kg bw/day				
4501	26 Jan 11	Terminal sacrifice	DOSING PHASE	93
4502	26 Jan 11	Terminal sacrifice	DOSING PHASE	93
4503	26 Jan 11	Terminal sacrifice	DOSING PHASE	93
4504	26 Jan 11	Terminal sacrifice	DOSING PHASE	93
4505	26 Jan 11	Terminal sacrifice	DOSING PHASE	93
4506	26 Jan 11	Terminal sacrifice	DOSING PHASE	93
4507	26 Jan 11	Terminal sacrifice	DOSING PHASE	93
4508	26 Jan 11	Terminal sacrifice	DOSING PHASE	93
4509	26 Jan 11	Terminal sacrifice	DOSING PHASE	93
4510	26 Jan 11	Terminal sacrifice	DOSING PHASE	93
4511	25 Mar 11	Recovery sacrifice	RECOVERY PHASE	60
4512	25 Mar 11	Recovery sacrifice	RECOVERY PHASE	60
4513	25 Mar 11	Recovery sacrifice	RECOVERY PHASE	60
4514	25 Mar 11	Recovery sacrifice	RECOVERY PHASE	60
4515	25 Mar 11	Recovery sacrifice	RECOVERY PHASE	60
4516	25 Mar 11	Recovery sacrifice	RECOVERY PHASE	60
4517	25 Mar 11	Recovery sacrifice	RECOVERY PHASE	60
4518	25 Mar 11	Recovery sacrifice	RECOVERY PHASE	60
4519	25 Mar 11	Recovery sacrifice	RECOVERY PHASE	60
4520	25 Mar 11	Recovery sacrifice	RECOVERY PHASE	60

<sup>a</sup>First day of each phase defined as Day 1. First day of test article administration defined as Dosing Day 1

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	Individual Daily Observations Preface	Appendix C
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Observations were performed at least twice daily (once in the morning and once in the afternoon). Additional observations were recorded as they occurred. For summarization purposes, only time-points with animals exhibiting abnormal findings are presented. Animals were considered to be within normal limits at all other time-points.

**Key to Abbreviations:**

AM = Morning Observation  
PM = Afternoon Observation  
US = Unscheduled Observation

Males	Individual Daily Observations	Appendix C
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Animal Number	Observations	Phase Day Session	DOS										REC	
			15 AM	15 PM	16 AM	16 PM	17 AM	17 PM	18 AM	18 PM	42 US	92 AM	21 PM	
Group 2 - 5 mg Mo/kg bw/day														
2004 ts	Daily observations, swollen (head/neck)													P
	Daily observations, incisor(s) broken/missing													P
	Daily observations, chromodacryorrhea (bi)													P
Group 4 - 60 mg Mo/kg bw/day														
4015	Oral/buccal, incisors maloccluded													P

Females	Individual Daily Observations	Appendix C
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Animal Number	Observations	Phase DOS										REC	
		15 AM	15 PM	16 AM	16 PM	17 AM	17 PM	18 AM	18 PM	42 US	92 AM	21 PM	
Group 1 - 0 mg Mo/kg bw/day													
1511	Daily observations, decreased fecal volume												P
Group 2 - 5 mg Mo/kg bw/day													
2510 ts	Daily observations, swollen (head/neck)	P	P	P	P	P	P	P	P				
	Daily observations, red exudate (head/neck)	P		P									
	Daily observations, incisors maloccluded	P	P	P	P	P	P	P	P				

ts = terminal sacrifice, P = present



Males		Individual Weekly Physical Examination Findings													Appendix D	
Animal Number	Observations	Phase	PRE	DOS											REC	
		Week	3	1	2	3	4	5	6	7	8	9	10	11	12	13
Group 1 - 0 mg/kg/day																
1001 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
1002 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
1003 ts	Within normal limits	P	P	P												
	Dermal general, alopecia (limbs)											2	2	2		
	Dermal general, alopecia (head/neck)				3	3	3	3	3	3	2	2	2	2		
	Dermal general, ulceration (head/neck), cervical area				P	P	P									
	Dermal general, scab(s), cervical area							P	P	P						
	Dermal general, scab(s), foreleg(s), left									P	P					
1004 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
1005 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
1006 ts	Within normal limits	P	P	P	P	P	P	P	P							
	Dermal general, alopecia (limbs)									2	2	2	2	2	2	
1007 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P

ts = terminal sacrifice, P = present, 2 = moderate, 3 = extreme

Note: 1a indicates the physical examination findings from the first day of Recovery Week 1.

Males		Individual Weekly Physical Examination Findings													Appendix D	
Animal Number	Observations	Phase	PRE	DOS												REC
		Week	3	1	2	3	4	5	6	7	8	9	10	11	12	13
Group 1 - 0 mg/kg/day																
1009 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
1010 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
1011	Within normal limits Dermal general, alopecia (limbs)	P	P	2	2	2	2	2	3	3	2	2	2	2	2	P
1012	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
1013	Within normal limits Dermal general, alopecia (limbs)	P	P	2	2	2	2	2	3	3	3	3	3	3	3	3
1014	Within normal limits Dermal general, alopecia (limbs) Dermal general, alopecia (head/neck)	P	P	P	P	P	2	2	3	3	3	3	3	3	3	3
1015	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
1016	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P

ts = terminal sacrifice, P = present, 2 = moderate, 3 = extreme

Note: 1a indicates the physical examination findings from the first day of Recovery Week 1.

Males		Individual Weekly Physical Examination Findings													Appendix D	
Animal Number	Observations	Phase	PRE	DOS											REC	
		Week	3	1	2	3	4	5	6	7	8	9	10	11	12	13
Group 1 - 0 mg/kg/day																
1017	Within normal limits	P	P	P												
	Dermal general, alopecia (limbs)				2	2	3	3	3	3	3	3	3	2	3	2
	Dermal general, alopecia (torso)										2	2	2	2	2	
1018	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
1019	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
1020	Within normal limits	P	P	P	P	P										P
	Dermal general, alopecia (limbs)						2	2	2	2	2	2	2	2	2	
1021 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
Group 2 - 5 mg/kg/day																
2001 ts	Within normal limits	P	P	P	P	P										
	Dermal general, alopecia (limbs)						2	2	2	2	2	2	2	2	2	
2002 ts	Within normal limits	P	P													
	Dermal general, alopecia (limbs)			3	3	3	3	3	3	3	3	3	3	3	3	

ts = terminal sacrifice, P = present, 2 = moderate, 3 = extreme

Note: 1a indicates the physical examination findings from the first day of Recovery Week 1.

Males		Individual Weekly Physical Examination Findings													Appendix D	
Animal Number	Observations	Phase	PRE	DOS											REC	
		Week	3	1	2	3	4	5	6	7	8	9	10	11	12	13
Group 2 - 5 mg/kg/day																
2003 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
2004 ts	Within normal limits	P	P	P	P	P	P	P	P			P				
	Ocular, chromodacryorrhea (unilateral)														P	
	Oral/buccal, incisor(s) broken/missing										P			P	P	
	Oral/buccal, incisors maloccluded											P				P
2005 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
2006 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
2007 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
2008 ts	Within normal limits	P	P													
	Dermal general, alopecia (limbs)				2	2	2	2	2	2	3	3	3	3	3	3
2009 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
2010 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
	Dermal general, scab(s), cervical area															P

ts = terminal sacrifice, P = present, 2 = moderate, 3 = extreme

Note: 1a indicates the physical examination findings from the first day of Recovery Week 1.

Males		Individual Weekly Physical Examination Findings													Appendix D	
Animal Number	Observations	Phase	PRE	DOS											REC	
		Week	3	1	2	3	4	5	6	7	8	9	10	11	12	13
Group 3 - 17 mg/kg/day																
3001 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
3002 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
3003 ts	Within normal limits Dermal general, alopecia (limbs)	P	P	P	P	P	P	P		2	2	2	2	2	2	2
3005 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
3006 ts	Within normal limits Dermal general, alopecia (limbs) Dermal general, alopecia (torso)	P	P	P		P		2	2	2	3	3	3	3	3	3
3007 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
3008 ts	Within normal limits Dermal general, alopecia (limbs)	P	P	P			2	2	2	2	2	2	2	2	2	2
3009 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
3010 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P

ts = terminal sacrifice, P = present, 2 = moderate, 3 = extreme

Note: 1a indicates the physical examination findings from the first day of Recovery Week 1.

Males		Individual Weekly Physical Examination Findings													Appendix D	
Animal Number	Observations	Phase	PRE	DOS												REC
		Week	3	1	2	3	4	5	6	7	8	9	10	11	12	13
Group 3 - 17 mg/kg/day																
3011 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
Group 4 - 60 mg/kg/day																
4001 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
4002 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
4003 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
4004 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
4005 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
4006 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
4007 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
4009 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	

ts = terminal sacrifice, P = present

Note: 1a indicates the physical examination findings from the first day of Recovery Week 1.

Males		Individual Weekly Physical Examination Findings													Appendix D		
Animal Number	Observations	Phase	PRE	DOS											REC		
		Week	3	1	2	3	4	5	6	7	8	9	10	11	12	13	1a
Group 4 - 60 mg/kg/day																	
4010 ts	Within normal limits Oral/buccal, incisor(s) broken/missing	P	P	P	P	P	P	P	P	P	P			P	P		
4011	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
4012	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
4013	Within normal limits Dermal general, alopecia (limbs) Dermal general, alopecia (head/neck)	P	P	P	P	P	P	P	P	P			2	2	2	3	2
4014	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
4015	Within normal limits General appearance, thin Dermal general, alopecia (limbs) Dermal general, stains on fur (head/neck), snout, black Ocular, chromodacryorrhea (unilateral) Oral/buccal, incisors maloccluded	P	P											P	P	P	P
					2	2	2	2	2	2	2	2				2	
									1								
									P								
										P	P	P					

ts = terminal sacrifice, P = present, 1 = slight, 2 = moderate, 3 = extreme  
 Note: 1a indicates the physical examination findings from the first day of Recovery Week 1.

Males		Individual Weekly Physical Examination Findings													Appendix D	
Animal Number	Observations	Phase	PRE	DOS											REC	
		Week	3	1	2	3	4	5	6	7	8	9	10	11	12	13
Group 4 - 60 mg/kg/day																
4016	u1 Within normal limits	P	P	P	P	P	P	P	P							
4017	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
4018	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
4019	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
4020	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
4021	ts Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P		

ts = terminal sacrifice, u1 = found dead, P = present

Note: 1a indicates the physical examination findings from the first day of Recovery Week 1.



Males		Individual Weekly Physical Examination Findings								Appendix D
Animal Number	Observations	Phase Week	REC							
			1b	2	3	4	5	6	7	8
Group 1 - 0 mg/kg/day										
1011	Within normal limits		P	P	P	P	P	P	P	P
1012	Within normal limits		P		P	P	P			
	General appearance, swollen (limbs/tail), forepaw(s), right			P						
	Dermal general, alopecia (limbs)							2	2	2
1013	Within normal limits					P				
	Dermal general, alopecia (limbs)		3	3	3		3	3	3	3
1014	Within normal limits					P				
	Dermal general, alopecia (limbs)		3	3	2		3	3	3	3
	Oral/buccal, incisor(s) broken/missing			P						
1015	Within normal limits		P	P	P	P	P	P	P	P
1016	Within normal limits		P	P	P	P	P	P	P	P
1017	Within normal limits				P	P	P	P	P	P
	Dermal general, alopecia (limbs)		2	2						

P = present, 2 = moderate, 3 = extreme

Note: 1b indicates the physical examination findings from the last day of Recovery Week 1.

Males		Individual Weekly Physical Examination Findings								Appendix D
Animal Number	Observations	Phase Week	REC							
			1b	2	3	4	5	6	7	8
Group 1 - 0 mg/kg/day										
1018	Within normal limits		P	P	P	P	P	P	P	P
1019	Within normal limits		P	P	P	P	P	P	P	P
1020	Within normal limits		P	P	P	P	P	P	P	P
Group 4 - 60 mg/kg/day										
4011	Within normal limits		P	P	P	P	P	P	P	P
4012	Within normal limits		P	P	P	P	P	P	P	P
4013	Within normal limits Dermal general, alopecia (limbs) Dermal general, alopecia (head/neck)			3	3	P	P	P	P	P
4014	Within normal limits		P	P	P	P	P	P	P	P
4015	Within normal limits Dermal general, alopecia (limbs)		P		2	2	P	P	P	2 2

P = present, 2 = moderate, 3 = extreme

Note: 1b indicates the physical examination findings from the last day of Recovery Week 1.

Males	Individual Weekly Physical Examination Findings	Appendix D
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Animal Number	Observations	Phase Week	REC							
			1b	2	3	4	5	6	7	8
Group 4 - 60 mg/kg/day										
4017	Within normal limits		P	P	P	P	P	P	P	P
4018	Within normal limits		P	P	P	P	P	P	P	P
4019	Within normal limits		P	P	P	P	P	P	P	P
4020	Within normal limits		P	P	P	P	P	P	P	P

P = present

Note: 1b indicates the physical examination findings from the last day of Recovery Week 1.

Females		Individual Weekly Physical Examination Findings													Appendix D	
Animal Number	Observations	Phase	PRE	DOS												REC
		Week	3	1	2	3	4	5	6	7	8	9	10	11	12	13
Group 1 - 0 mg/kg/day																
1501 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
1502 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
1503 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
1504 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
1505 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
1506 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
1507 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
1508 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
1509 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
1510 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P

ts = terminal sacrifice, P = present

Note: 1a indicates the physical examination findings from the first day of Recovery Week 1.

Females		Individual Weekly Physical Examination Findings													Appendix D	
Animal Number	Observations	Phase	PRE	DOS												REC
		Week	3	1	2	3	4	5	6	7	8	9	10	11	12	13
Group 1 - 0 mg/kg/day																
1511	Within normal limits Oral/buccal, incisor(s) broken/missing	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
1512	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
1513	Within normal limits Dermal general, alopecia (limbs)	P	2	2	2	2	2	3	3	3	3	3	3	3	3	3
1514	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
1515	Within normal limits Ocular, chromodacryorrhea (unilateral) Oral/buccal, incisor(s) broken/missing	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
1516	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
1517	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
1518	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
1519	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P

P = present, 2 = moderate, 3 = extreme

Note: 1a indicates the physical examination findings from the first day of Recovery Week 1.

Females		Individual Weekly Physical Examination Findings													Appendix D	
Animal Number	Observations	Phase	PRE	DOS												REC
		Week	3	1	2	3	4	5	6	7	8	9	10	11	12	13
Group 1 - 0 mg/kg/day																
1520	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Group 2 - 5 mg/kg/day																
2501 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
2502 ts	Within normal limits Dermal general, alopecia (limbs)	P	P	P	2	2	2	2	2	3	2	2	2	2	2	2
2503 ts	Within normal limits General appearance, unthrifty coat	P	P	P	P	P	P	P	P	P	P	P	P		P	P
2504 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
2505 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
2506 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
2507 ts	Within normal limits Dermal general, alopecia (limbs)	P	P	P	2	2	2	3	3	3	2	2	2	2	2	2

ts = terminal sacrifice, P = present, 2 = moderate, 3 = extreme  
 Note: 1a indicates the physical examination findings from the first day of Recovery Week 1.

Females		Individual Weekly Physical Examination Findings													Appendix D	
Animal Number	Observations	Phase	PRE	DOS											REC	
		Week	3	1	2	3	4	5	6	7	8	9	10	11	12	13
Group 2 - 5 mg/kg/day																
2508 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
2509 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
2510 ts	Within normal limits	P	P													
	General appearance, swollen (head/neck), snout				P											
	Dermal general, alopecia (limbs)			2	2	2	2	2	2	2	2	2	2	2	2	2
	Ocular, lacrimation (unilateral)							3	3	2	2	2	2	2	2	2
	Ocular, chromodacryorrhea (unilateral)				P				P	P	P	P	P	P	P	P
	Oral/buccal, incisor(s) broken/missing													P	P	P
	Oral/buccal, incisors maloccluded				P	P	P	P	P							
Group 3 - 17 mg/kg/day																
3501 ts	Within normal limits	P	P													
	Dermal general, alopecia (limbs)			2	2	2	2	2	2	2	2	2	2	2	2	2
3502 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
3503 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P

ts = terminal sacrifice, P = present, 2 = moderate, 3 = extreme

Note: 1a indicates the physical examination findings from the first day of Recovery Week 1.

Females		Individual Weekly Physical Examination Findings													Appendix D							
Animal Number	Observations	Phase	PRE	DOS											REC							
		Week	3	1	2	3	4	5	6	7	8	9	10	11	12	13	1a					
Group 3 - 17 mg/kg/day																						
3504 ts	Within normal limits Dermal general, alopecia (limbs)	P		2	2	2	2	2	2	2	2	2		P	P		2	2		P		
3505 ts	Within normal limits General appearance, thin General appearance, unthrifty coat	P	P	P	P	P	P	P	P	P	P	P	P	P	P				P	P		
3506 ts	Within normal limits Dermal general, alopecia (limbs)	P	P	P	P	P	P	P	P	P	P	P	P	P	P						2	
3507 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
3508 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
3509 ts	Within normal limits Dermal general, alopecia (limbs) Dermal general, alopecia (head/neck)	P	P			2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
3510 ts	Within normal limits Dermal general, alopecia (limbs)	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P					2	P

ts = terminal sacrifice, P = present, 2 = moderate

Note: 1a indicates the physical examination findings from the first day of Recovery Week 1.



Females		Individual Weekly Physical Examination Findings													Appendix D	
Animal Number	Observations	Phase	PRE	DOS											REC	
		Week	3	1	2	3	4	5	6	7	8	9	10	11	12	13
Group 4 - 60 mg/kg/day																
4501 ts	Within normal limits General appearance, thin	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
4502 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
4503 ts	Within normal limits Dermal general, alopecia (limbs) Dermal general, alopecia (torso)	P	P	P	P	P		3	3	3	3	3	3	3	3	3
4504 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
4505 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
4506 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
4507 ts	Within normal limits Dermal general, alopecia (limbs)	P	P	P	P	P	P			2	2	2	2		P	P
4508 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P

ts = terminal sacrifice, P = present, 2 = moderate, 3 = extreme

Note: 1a indicates the physical examination findings from the first day of Recovery Week 1.

Females		Individual Weekly Physical Examination Findings													Appendix D	
Animal Number	Observations	Phase	PRE	DOS											REC	
		Week	3	1	2	3	4	5	6	7	8	9	10	11	12	13
Group 4 - 60 mg/kg/day																
4509 ts	Within normal limits	P	P													
	General appearance, thin													P		
	Dermal general, alopecia (limbs)			2	2	2	2	2	2	3	3	3	3	3	3	3
	Dermal general, alopecia (torso)						2	2	2				2	2	2	
	Dermal general, scab(s), dorsal													P		
4510 ts	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
4511	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P		P	P
	General appearance, unthrifty coat													P		
4512	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
4513	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
4514	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P		P	P
	General appearance, thin													P		
4515	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
4516	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P

ts = terminal sacrifice, P = present, 2 = moderate, 3 = extreme

Note: 1a indicates the physical examination findings from the first day of Recovery Week 1.

Females		Individual Weekly Physical Examination Findings													Appendix D	
Animal Number	Observations	Phase	PRE	DOS												REC
		Week	3	1	2	3	4	5	6	7	8	9	10	11	12	13
Group 4 - 60 mg/kg/day																
4517	Within normal limits Dermal general, alopecia (limbs)	P	P	P		2	2	2	2	2	2	2	2	2	2	P
4518	Within normal limits Dermal general, alopecia (limbs)	P	P	P		2	2	2	3	3	3	3	3	3	3	2
4519	Within normal limits	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
4520	Within normal limits Dermal general, alopecia (limbs)	P	P	P	P	P	P	P	P	P	P	P	P	P		P

P = present, 2 = moderate, 3 = extreme

Note: 1a indicates the physical examination findings from the first day of Recovery Week 1.

Females		Individual Weekly Physical Examination Findings								Appendix D
Animal Number	Observations	Phase Week	REC							
			1b	2	3	4	5	6	7	8
Group 1 - 0 mg/kg/day										
1511	Within normal limits Gastrointestinal, decreased fecal volume	P	P		P	P	P	P	P	P
1512	Within normal limits	P	P	P	P	P	P	P	P	P
1513	Within normal limits Dermal general, alopecia (limbs)	3	3	3		P	3	3	3	3
1514	Within normal limits	P	P	P	P	P	P	P	P	P
1515	Within normal limits Dermal general, stains on fur (head/neck), reddish/brown	P			P	P	P	P	P	P
1516	Within normal limits	P	P	P	P	P	P	P	P	P
1517	Within normal limits	P	P	P	P	P	P	P	P	P
1518	Within normal limits	P	P	P	P	P	P	P	P	P
1519	Within normal limits	P	P	P	P	P	P	P	P	P

P = present, 1 = slight, 3 = extreme

Note: 1b indicates the physical examination findings from the last day of Recovery Week 1.

Females		Individual Weekly Physical Examination Findings								Appendix D
Animal Number	Observations	Phase Week	REC							
			1b	2	3	4	5	6	7	8
Group 1 - 0 mg/kg/day										
1520	Within normal limits		P	P	P	P	P	P	P	P
Group 4 - 60 mg/kg/day										
4511	Within normal limits		P	P	P	P	P	P	P	P
4512	Within normal limits		P	P	P	P	P	P	P	P
4513	Within normal limits		P	P	P	P	P	P	P	P
4514	Within normal limits		P	P	P	P	P	P	P	P
4515	Within normal limits		P	P	P	P	P	P	P	P
4516	Within normal limits		P	P	P	P	P	P	P	P
4517	Within normal limits		P	P	P	P	P	P	P	P
4518	Within normal limits Dermal general, alopecia (limbs)					P	P	P	P	P
			2	3	3					

P = present, 2 = moderate, 3 = extreme

Note: 1b indicates the physical examination findings from the last day of Recovery Week 1.

Females	Individual Weekly Physical Examination Findings	Appendix D
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Animal Number	Observations	Phase Week	REC							
			1b	2	3	4	5	6	7	8
Group 4 - 60 mg/kg/day										
4519	Within normal limits		P	P	P	P	P	P	P	P
4520	Within normal limits		P			P	P	P	P	P
	Dermal general, alopecia (limbs)			2	2					

P = present, 2 = moderate

Note: 1b indicates the physical examination findings from the last day of Recovery Week 1.

	Individual Ophthalmology Observations Preface	Appendix E
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Ophthalmoscopic examinations were performed as follows: Pretest - Week 2 and Termination - Week 13. Only animals that were within normal limits at the pretest examination or found to be acceptable to be placed on study by the Veterinary Ophthalmologist were placed on test.

Pre-test Animal No.	On-test Animal No.	Finding
41	3001	Persistent hyaloids remnant, right eye
91	excluded	Focal posterior polar cataract, left eye
99	excluded	Intravitreal hemorrhage, extreme, left eye
107	excluded	Anterior uveitis, left eye

Males	Individual Ophthalmology Observations	Appendix E
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Animal Number	Observations	Phase	
		Week	DOS
		2	13
Group 1 - 0 mg Mo/kg bw/day			
1001 ts	Within normal limits	P	P
1002 ts	Within normal limits	P	P
1003 ts	Within normal limits	P	P
1004 ts	Within normal limits	P	P
1005 ts	Within normal limits	P	P
1006 ts	Within normal limits	P	P
1007 ts	Within normal limits	P	P
1009 ts	Within normal limits	P	P
1010 ts	Within normal limits	P	P
1011	Within normal limits	P	P
1012	Within normal limits	P	P
1013	Within normal limits	P	P
1014	Within normal limits	P	P
1015	Within normal limits	P	P
1016	Within normal limits	P	P
1017	Within normal limits	P	P
1018	Within normal limits	P	P
1019	Within normal limits	P	P

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ts = terminal sacrifice, P = present



Males	Individual Ophthalmology Observations	Appendix E
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Animal Number	Observations	Phase Week	PRE	DOS
			2	13
Group 1 - 0 mg Mo/kg bw/day				
1020	Within normal limits		P	P
1021 ts	Within normal limits		P	P
Group 2 - 5 mg Mo/kg bw/day				
2001 ts	Within normal limits		P	P
2002 ts	Within normal limits		P	P
2003 ts	Within normal limits		P	P
2004 ts	Within normal limits		P	P
2005 ts	Within normal limits Retina, retinal degeneration, left		P	P
2006 ts	Within normal limits		P	P
2007 ts	Within normal limits		P	P
2008 ts	Within normal limits		P	P
2009 ts	Within normal limits		P	P
2010 ts	Within normal limits		P	P
Group 3 - 17 mg Mo/kg bw/day				
3001 ts	Within normal limits Vitreous body, persistent hyaloid remnant, right		P	P
3002 ts	Within normal limits		P	P
3003 ts	Within normal limits		P	P

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ts = terminal sacrifice, P = present

Males	Individual Ophthalmology Observations	Appendix E
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Animal Number	Observations	Phase Week	PRE	DOS
			2	13
Group 3 - 17 mg Mo/kg bw/day				
3005 ts	Within normal limits		P	P
3006 ts	Within normal limits		P	P
3007 ts	Within normal limits		P	P
3008 ts	Within normal limits		P	P
3009 ts	Within normal limits		P	P
3010 ts	Within normal limits		P	P
3011 ts	Within normal limits		P	P
Group 4 - 60 mg Mo/kg bw/day				
4001 ts	Within normal limits		P	P
4002 ts	Within normal limits		P	P
4003 ts	Within normal limits		P	P
4004 ts	Within normal limits		P	P
4005 ts	Within normal limits		P	P
4006 ts	Within normal limits		P	P
4007 ts	Within normal limits		P	P
4009 ts	Within normal limits		P	P
4010 ts	Within normal limits		P	P
4011	Within normal limits		P	P

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ts = terminal sacrifice, P = present

Males		Individual Ophthalmology Observations		Appendix E	
Animal Number	Observations	Phase	PRE	DOS	
		Week	2	13	
Group 4 - 60 mg Mo/kg bw/day					
4012	Within normal limits		P	P	
4013	Within normal limits		P	P	
4014	Within normal limits		P	P	
4015	Within normal limits		P	P	
4016 u1	Within normal limits		P		
4017	Within normal limits		P	P	
4018	Within normal limits		P	P	
4019	Within normal limits		P	P	
4020	Within normal limits		P	P	
4021 ts	Within normal limits		P	P	

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ts = terminal sacrifice, u1 = found dead, P = present

Females	Individual Ophthalmology Observations	Appendix E
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Animal Number	Observations	Phase		
		PRE	DOS	
		Week	2	13
Group 1 - 0 mg Mo/kg bw/day				
1501 ts	Within normal limits		P	P
1502 ts	Within normal limits		P	P
1503 ts	Within normal limits		P	P
1504 ts	Within normal limits		P	P
1505 ts	Within normal limits		P	P
1506 ts	Within normal limits		P	P
1507 ts	Within normal limits		P	P
1508 ts	Within normal limits		P	P
1509 ts	Within normal limits		P	P
1510 ts	Within normal limits		P	P
1511	Within normal limits		P	P
1512	Within normal limits		P	P
1513	Within normal limits		P	P
1514	Within normal limits		P	P
1515	Within normal limits		P	P
1516	Within normal limits		P	P
1517	Within normal limits		P	P
1518	Within normal limits		P	P

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ts = terminal sacrifice, P = present

Females		Individual Ophthalmology Observations		Appendix E	
Animal Number	Observations	Phase	PRE	DOS	
		Week	2	13	
Group 1 - 0 mg Mo/kg bw/day					
1519	Within normal limits		P	P	
1520	Within normal limits		P	P	
Group 2 - 5 mg Mo/kg bw/day					
2501 ts	Within normal limits		P	P	
2502 ts	Within normal limits		P	P	
2503 ts	Within normal limits		P	P	
2504 ts	Within normal limits		P	P	
2505 ts	Within normal limits		P	P	
2506 ts	Within normal limits		P	P	
2507 ts	Within normal limits		P	P	
2508 ts	Within normal limits		P	P	
2509 ts	Within normal limits		P	P	
2510 ts	Within normal limits		P	P	
Group 3 - 17 mg Mo/kg bw/day					
3501 ts	Within normal limits		P	P	
3502 ts	Within normal limits		P	P	
3503 ts	Within normal limits		P	P	
3504 ts	Within normal limits		P	P	

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ts = terminal sacrifice, P = present

Females	Individual Ophthalmology Observations	Appendix E
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Animal Number	Observations	Phase	
		Week	DOS
		2	13
Group 3 - 17 mg Mo/kg bw/day			
3505 ts	Within normal limits	P	P
3506 ts	Within normal limits	P	P
3507 ts	Within normal limits	P	P
3508 ts	Within normal limits	P	P
3509 ts	Within normal limits	P	P
3510 ts	Within normal limits	P	P
Group 4 - 60 mg Mo/kg bw/day			
4501 ts	Within normal limits	P	P
4502 ts	Within normal limits	P	P
4503 ts	Within normal limits	P	P
4504 ts	Within normal limits	P	P
4505 ts	Within normal limits	P	P
4506 ts	Within normal limits	P	P
4507 ts	Within normal limits	P	P
4508 ts	Within normal limits	P	P
4509 ts	Within normal limits	P	P
4510 ts	Within normal limits	P	P
4511	Within normal limits	P	P

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ts = terminal sacrifice, P = present

Females	Individual Ophthalmology Observations	Appendix E
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Animal Number	Observations	Phase Week	PRE	DOS
			2	13
Group 4 - 60 mg Mo/kg bw/day				
4512	Within normal limits		P	P
4513	Within normal limits		P	P
4514	Within normal limits		P	P
4515	Within normal limits		P	P
4516	Within normal limits		P	P
4517	Within normal limits		P	P
4518	Within normal limits		P	P
4519	Within normal limits		P	P
4520	Within normal limits		P	P

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P = present

Males		Individual Body Weights (grams)											Appendix F
Animal Number	Phase Week	PRE 2	RND 1	DOS 1	2	3	4	5	6	7	8	9	10
Group 1 - 0 mg Mo/kg bw/day													
1001 ts		276.7	342.4	382.6	419.1	460.8	479.4	515.5	525.9	545.1	560.7	570.0	578.5
1002 ts		303.4	377.6	426.2	472.7	479.5	528.2	559.8	582.4	592.2	616.0	618.6	633.2
1003 ts		281.9	344.8	379.4	406.7	434.7	417.0	454.1	482.3	506.6	524.6	533.2	537.0
1004 ts		261.2	320.6	356.1	383.9	413.2	440.1	461.1	479.9	498.7	508.4	517.1	529.7
1005 ts		286.5	354.1	397.4	430.9	473.7	496.9	527.7	553.0	575.2	591.5	605.8	618.8
1006 ts		279.4	348.3	388.1	428.3	454.9	474.8	502.3	520.7	547.8	566.1	589.5	599.4
1007 ts		268.3	327.1	358.7	385.9	416.1	430.3	447.9	460.5	475.1	487.8	487.8	494.5
1009 ts		266.8	335.0	369.9	406.9	443.3	464.2	489.2	514.4	531.2	536.3	544.2	549.9
1010 ts		285.4	343.0	388.1	421.7	457.3	471.4	497.6	525.4	546.4	557.9	562.9	571.7
1011		290.6	348.1	392.1	430.5	469.5	494.8	516.4	538.8	558.5	580.2	589.1	607.2
1012		282.3	341.9	370.8	398.0	433.0	443.4	462.0	478.6	492.9	506.1	519.8	527.4
1013		260.8	313.7	348.0	383.3	415.0	428.4	451.8	468.2	486.7	492.5	499.0	500.2
1014		275.2	342.0	382.2	423.1	464.1	490.6	505.0	535.2	559.9	580.2	596.1	616.0
1015		270.9	328.3	359.9	391.4	421.7	435.1	446.0	462.5	474.5	485.1	491.2	493.5
1016		292.9	360.7	410.5	454.4	491.9	524.2	551.9	573.8	596.0	617.1	630.1	641.6
1017		273.8	333.8	373.0	402.0	438.9	457.4	476.5	495.1	510.5	519.5	529.4	535.7
1018		277.1	330.6	367.4	404.7	440.0	460.5	481.9	498.4	518.0	536.9	550.1	557.9
1019		299.2	364.6	402.0	440.2	483.7	505.8	528.3	551.5	566.7	581.6	581.4	595.6
1020		263.0	330.1	368.2	406.9	441.5	460.7	482.9	496.2	516.4	530.2	539.8	551.8
1021 ts		268.6	328.8	372.0	413.9	451.9	475.3	502.6	523.3	540.3	557.0	568.0	582.1
Mean		278.2	340.8	379.6	415.2	449.2	468.9	493.0	513.3	531.9	546.8	556.2	566.1
SD		12.20	15.49	19.45	23.46	23.49	31.45	33.81	35.98	36.81	40.43	41.89	45.57
N		20	20	20	20	20	20	20	20	20	20	20	20

ts = terminal sacrifice



Males		Individual Body Weights (grams)											Appendix F
Animal Number	Phase Week	PRE 2	RND 1	DOS 1	2	3	4	5	6	7	8	9	10
Group 2 - 5 mg Mo/kg bw/day													
2001 ts		293.4	359.6	398.6	435.7	473.8	492.4	506.7	522.9	534.7	545.7	553.5	565.1
2002 ts		266.7	319.4	358.0	393.0	424.3	439.9	461.2	484.4	494.8	512.5	521.9	532.7
2003 ts		269.7	327.5	361.9	389.2	422.1	445.2	468.0	491.5	503.7	519.0	529.0	544.6
2004 ts		294.3	364.7	410.8	450.7	488.9	513.1	528.6	546.8	553.4	575.1	586.9	593.8
2005 ts		273.3	348.4	395.4	443.7	470.6	487.0	517.8	539.6	556.3	574.1	585.3	589.7
2006 ts		286.6	350.9	397.7	434.0	466.9	483.6	509.6	528.5	537.6	548.3	561.3	570.6
2007 ts		282.7	341.0	377.0	402.6	433.6	455.1	477.7	494.8	507.3	518.7	530.5	538.0
2008 ts		276.2	334.3	373.3	407.8	445.9	473.0	498.5	520.6	542.7	558.9	574.0	593.3
2009 ts		278.8	349.3	398.6	443.3	488.2	518.7	549.9	569.1	593.3	613.4	619.6	635.4
2010 ts		260.2	318.3	349.5	378.6	400.6	416.0	445.5	463.1	475.2	483.2	493.7	501.4
Mean		278.2	341.3	382.1	417.9	451.5	472.4	496.4	516.1	529.9	544.9	555.6	566.5
SD		11.24	16.11	20.93	26.43	30.54	33.02	32.71	32.31	34.86	37.83	37.47	38.64
N		10	10	10	10	10	10	10	10	10	10	10	10

ts = terminal sacrifice

Males		Individual Body Weights (grams)											Appendix F
Animal Number	Phase Week	PRE 2	RND 1	DOS 1	2	3	4	5	6	7	8	9	10
Group 3 - 17 mg Mo/kg bw/day													
3001 ts		283.2	341.1	374.1	409.7	444.6	462.1	475.3	495.1	509.3	517.7	524.0	537.7
3002 ts		258.2	309.8	336.1	369.2	397.8	415.2	436.2	460.1	476.9	489.8	505.9	518.9
3003 ts		270.7	338.1	379.5	418.6	455.0	472.9	498.5	514.2	528.2	538.9	550.2	561.5
3005 ts		272.9	317.4	340.1	376.9	405.0	414.5	439.7	460.4	482.7	492.9	501.7	508.5
3006 ts		276.2	327.0	365.6	393.6	435.6	453.7	472.0	491.5	509.9	521.4	534.7	547.8
3007 ts		267.9	322.2	355.0	384.5	413.4	426.1	442.0	467.5	477.0	491.3	501.6	507.7
3008 ts		296.0	364.8	399.8	433.6	475.5	501.4	517.8	537.7	556.4	569.6	589.6	604.6
3009 ts		280.7	342.1	380.0	419.5	461.9	481.8	503.3	526.3	539.7	556.3	565.6	577.7
3010 ts		284.8	356.5	398.3	440.9	485.6	521.4	549.6	572.8	593.3	605.8	616.4	631.3
3011 ts		281.0	343.1	379.5	425.4	470.3	492.8	517.4	541.4	563.4	576.8	587.2	606.2
Mean		277.2	336.2	370.8	407.2	444.5	464.2	485.2	506.7	523.7	536.1	547.7	560.2
SD		10.45	17.23	21.78	24.75	30.76	36.96	38.53	38.29	39.74	40.31	40.94	43.77
N		10	10	10	10	10	10	10	10	10	10	10	10

ts = terminal sacrifice

Males		Individual Body Weights (grams)											Appendix F
Animal Number	Phase Week	PRE 2	RND 1	DOS 1	2	3	4	5	6	7	8	9	10
Group 4 - 60 mg Mo/kg bw/day													
4001 ts		280.9	337.0	363.9	386.7	413.6	427.4	441.3	457.9	464.9	471.1	480.2	483.9
4002 ts		271.9	320.0	336.9	359.0	380.5	389.5	395.0	407.6	416.1	415.2	420.2	427.3
4003 ts		284.6	351.1	384.2	418.4	442.9	458.1	482.1	493.2	515.0	524.3	528.5	532.3
4004 ts		276.0	332.9	360.8	390.4	424.2	430.6	451.8	471.1	482.2	496.7	505.1	507.9
4005 ts		275.5	328.4	356.3	387.0	412.4	425.2	442.2	457.0	472.7	482.4	491.6	500.2
4006 ts		272.1	334.5	363.4	394.1	427.4	443.1	462.0	478.5	492.7	504.8	512.7	513.9
4007 ts		262.4	315.4	342.3	370.2	395.3	400.4	419.2	436.5	453.7	459.2	471.3	476.5
4009 ts		266.8	323.8	349.8	370.7	406.3	424.2	431.5	442.5	462.2	462.8	472.6	483.2
4010 ts		277.0	336.2	369.1	406.6	430.3	442.5	464.2	477.8	496.6	514.0	512.2	524.1
4011		279.7	333.1	358.1	385.5	407.9	451.2	423.2	434.7	450.3	456.2	459.3	470.9
4012		279.9	329.9	375.1	396.3	425.6	431.0	450.2	465.7	479.0	484.5	483.2	492.8
4013		262.1	324.2	354.4	380.9	410.7	418.4	429.8	436.2	451.2	460.6	462.8	465.0
4014		289.6	362.6	401.1	434.7	461.4	480.0	497.1	508.1	521.2	530.8	540.0	550.4
4015		282.9	332.2	358.4	379.4	405.4	410.4	423.8	347.4	385.5	409.9	416.7	433.6
4016 u1		294.1	364.7	402.7	439.8	474.8	499.3	516.4	536.6				
4017		269.4	320.7	346.3	360.7	394.0	414.6	433.3	437.8	456.2	461.8	466.0	481.0
4018		288.9	339.0	360.2	370.6	417.1	439.7	448.7	469.8	491.3	494.7	500.2	508.7
4019		259.3	317.1	345.4	371.2	398.0	416.5	428.1	446.5	461.0	467.9	476.3	482.6
4020		299.2	365.5	389.5	399.6	418.8	428.8	441.9	459.0	468.3	468.4	471.3	465.0
4021 ts		275.5	344.0	367.2	391.6	426.3	441.9	458.4	468.6	484.4	493.9	510.9	514.0
Mean		277.4	335.6	364.3	389.7	418.6	433.6	447.0	456.6	468.7	476.8	483.2	490.2
SD		10.69	15.20	18.35	22.07	22.39	25.51	28.09	38.54	31.75	31.89	32.25	31.32
N		20	20	20	20	20	20	20	20	19	19	19	19

ts = terminal sacrifice, u1 = found dead

Males		Individual Body Weights (grams)										Appendix F
Animal Number	Phase Week	DOS			REC							
		11	12	13	1	2	3	4	5	6	7	8
Group 1 - 0 mg Mo/kg bw/day												
1001 ts		588.4	586.8	592.0								
1002 ts		654.3	652.1	658.3								
1003 ts		557.1	562.7	571.5								
1004 ts		541.2	535.2	537.4								
1005 ts		637.9	642.3	649.8								
1006 ts		616.8	623.2	631.4								
1007 ts		502.0	497.4	503.5								
1009 ts		565.9	564.6	568.3								
1010 ts		586.8	585.9	580.1								
1011		626.1	611.8	617.1	629.4	645.7	649.1	661.4	675.2	696.9	699.0	713.1
1012		546.9	536.0	548.2	546.8	559.5	561.9	571.0	584.8	598.0	615.4	615.4
1013		511.9	507.6	514.5	523.3	540.1	545.5	548.2	555.0	570.2	572.2	581.8
1014		627.3	618.4	613.2	634.6	642.2	642.3	650.0	668.7	677.0	697.0	698.8
1015		499.2	502.2	503.0	511.2	522.4	525.8	528.1	540.5	548.5	561.4	562.3
1016		656.0	666.7	676.4	683.0	699.2	703.6	711.0	716.9	734.4	754.0	751.4
1017		544.8	552.8	566.8	563.7	582.8	576.8	587.8	590.6	607.6	619.7	614.5
1018		570.8	579.5	592.8	594.8	619.1	613.2	627.5	636.1	654.7	662.4	671.9
1019		621.6	632.9	636.2	653.9	675.0	682.6	691.8	711.3	728.3	747.2	758.2
1020		563.8	566.4	566.6	570.9	590.7	591.6	596.0	604.9	622.4	625.9	626.7
1021 ts		606.8	606.5	614.6								
Mean		581.3	581.6	587.1	591.2	607.7	609.2	617.3	628.4	643.8	655.4	659.4
SD		48.70	50.26	50.54	57.60	58.45	59.27	61.14	62.87	64.77	67.77	69.35
N		20	20	20	10	10	10	10	10	10	10	10

ts = terminal sacrifice

Males	Individual Body Weights (grams)											Appendix F
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Animal Number	Phase	DOS			REC							
	Week	11	12	13	1	2	3	4	5	6	7	8

## Group 2 - 5 mg Mo/kg bw/day

2001 ts	579.4	567.9	577.9
2002 ts	550.7	547.7	554.6
2003 ts	560.7	567.2	582.4
2004 ts	602.5	586.3	585.3
2005 ts	607.1	600.0	596.4
2006 ts	588.8	579.1	573.0
2007 ts	547.4	543.9	554.9
2008 ts	608.0	611.2	613.8
2009 ts	663.9	677.3	677.9
2010 ts	511.1	524.7	523.1
Mean	582.0	580.5	583.9
SD	42.35	42.94	41.42
N	10	10	10

ts = terminal sacrifice

Males	Individual Body Weights (grams)											Appendix F
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Animal Number	Phase	DOS			REC							
	Week	11	12	13	1	2	3	4	5	6	7	8

## Group 3 - 17 mg Mo/kg bw/day

3001 ts	547.3	548.4	551.1
3002 ts	533.2	533.6	539.1
3003 ts	574.0	580.6	587.7
3005 ts	511.8	513.3	515.2
3006 ts	561.7	561.2	559.2
3007 ts	519.8	512.2	516.3
3008 ts	618.3	628.9	629.3
3009 ts	585.8	588.9	590.9
3010 ts	646.7	644.5	652.1
3011 ts	618.6	613.2	621.7
Mean	571.7	572.5	576.3
SD	45.53	46.81	47.85
N	10	10	10

ts = terminal sacrifice

Males		Individual Body Weights (grams)										Appendix F
Animal Number	Phase Week	DOS			REC							
		11	12	13	1	2	3	4	5	6	7	8
Group 4 - 60 mg Mo/kg bw/day												
4001 ts		494.0	487.6	490.5								
4002 ts		441.4	440.4	432.6								
4003 ts		537.6	522.8	526.8								
4004 ts		520.8	520.6	519.9								
4005 ts		512.6	513.3	520.1								
4006 ts		524.0	519.9	529.8								
4007 ts		489.1	485.2	484.3								
4009 ts		493.4	496.9	497.1								
4010 ts		537.1	532.2	531.7								
4011		473.1	474.9	472.5	494.3	511.6	514.7	520.0	528.1	540.4	550.5	553.4
4012		500.4	491.8	493.6	516.2	536.5	548.9	558.5	569.5	578.7	587.2	592.4
4013		480.8	479.3	472.5	504.0	526.1	536.6	547.4	565.0	579.2	589.9	592.5
4014		557.2	555.5	564.6	581.8	597.9	606.8	615.0	625.8	635.7	645.5	649.7
4015		441.1	435.9	440.5	467.9	485.3	492.0	500.5	514.3	527.6	541.4	544.5
4016 u1												
4017		483.9	483.7	487.6	516.3	544.0	546.1	559.3	576.0	596.1	611.5	618.0
4018		522.3	522.8	523.1	552.2	569.4	584.3	595.9	611.1	617.5	625.8	639.6
4019		494.9	498.0	500.6	508.5	526.8	531.9	545.6	550.5	564.8	573.4	579.1
4020		472.6	464.4	468.4	502.9	516.8	535.2	554.2	564.2	582.3	593.4	599.4
4021 ts		531.5	520.6	515.9								
Mean		500.4	497.1	498.5	516.0	534.9	544.1	555.2	567.2	580.3	591.0	596.5
SD		31.58	30.85	32.88	33.16	33.01	34.35	34.72	35.47	34.13	33.60	35.45
N		19	19	19	9	9	9	9	9	9	9	9

ts = terminal sacrifice, u1 = found dead

Females		Individual Body Weights (grams)											Appendix F
Animal Number	Phase Week	PRE 2	RND 1	DOS 1	2	3	4	5	6	7	8	9	10
Group 1 - 0 mg Mo/kg bw/day													
1501 ts		194.2	220.9	227.0	237.8	253.0	258.3	271.2	270.8	281.1	283.5	292.2	291.1
1502 ts		210.9	227.4	223.2	245.7	248.0	250.0	241.1	255.3	264.8	262.2	260.4	270.3
1503 ts		204.1	223.3	237.7	243.7	257.6	256.9	264.8	268.0	276.9	240.9	256.4	290.6
1504 ts		211.4	234.7	235.6	249.6	262.6	264.2	263.4	272.1	284.4	286.4	279.6	286.9
1505 ts		214.3	238.4	250.0	261.1	280.8	285.9	294.1	300.5	309.1	314.3	310.5	311.2
1506 ts		206.1	227.7	237.6	241.3	256.1	261.2	268.9	270.6	279.7	281.6	287.2	289.0
1507 ts		201.1	223.9	229.7	253.0	265.5	262.9	266.3	286.8	302.5	304.1	298.9	310.8
1508 ts		198.9	221.3	229.7	241.7	253.2	257.3	269.3	273.6	277.6	281.8	288.1	287.5
1509 ts		207.5	235.2	242.4	249.0	261.5	271.8	279.0	277.2	303.8	340.1	305.2	307.3
1510 ts		209.3	242.6	256.2	265.9	267.9	274.2	288.2	289.2	289.0	299.0	305.2	305.1
1511		219.4	250.1	267.4	274.0	294.2	301.3	312.9	317.2	326.4	336.5	332.6	334.6
1512		191.7	215.0	222.0	226.7	241.6	243.0	243.1	255.7	263.8	264.1	275.1	280.2
1513		212.4	242.1	243.7	264.5	273.7	278.9	277.2	287.5	297.3	294.5	288.9	296.7
1514		207.8	nw	229.2	242.9	253.9	250.8	254.2	268.4	280.2	279.1	274.5	283.9
1515		186.7	213.4	224.0	234.2	235.5	242.9	254.3	256.8	256.1	264.0	273.4	272.4
1516		203.6	229.5	238.6	261.8	271.2	276.9	283.0	291.8	296.4	290.8	288.7	295.9
1517		188.3	199.4	214.1	223.4	230.7	228.3	243.6	247.8	247.5	253.3	264.5	266.9
1518		219.4	233.6	254.0	268.1	282.6	282.5	301.1	309.9	312.5	316.1	327.0	331.0
1519		196.1	217.9	221.7	243.4	256.9	264.3	263.9	280.1	283.0	287.4	283.5	295.3
1520		202.9	221.5	227.2	244.5	257.7	261.1	258.1	274.9	274.3	277.1	278.0	284.7
Mean		204.3	227.3	235.5	248.6	260.2	263.6	269.9	277.7	285.3	287.8	288.5	294.6
SD		9.46	12.04	13.56	13.72	15.62	16.92	19.25	18.19	19.75	25.66	20.27	18.04
N		20	19	20	20	20	20	20	20	20	20	20	20

ts = terminal sacrifice, nw = not weighed



Females		Individual Body Weights (grams)											Appendix F
Animal Number	Phase Week	PRE 2	RND 1	DOS 1	2	3	4	5	6	7	8	9	10
Group 2 - 5 mg Mo/kg bw/day													
2501 ts		214.5	242.7	253.8	271.0	275.3	287.6	294.8	302.6	301.6	314.4	316.8	316.8
2502 ts		187.5	210.5	224.6	234.9	241.3	254.1	265.5	269.9	271.6	282.9	283.6	287.3
2503 ts		206.0	231.4	237.7	240.2	262.2	269.3	271.6	266.4	287.6	294.9	286.9	300.8
2504 ts		202.1	228.3	244.0	255.1	262.9	280.2	288.0	292.4	294.5	301.3	305.8	309.2
2505 ts		197.1	217.7	218.8	247.9	260.4	255.6	251.0	273.5	276.2	277.0	270.6	286.0
2506 ts		210.8	234.3	244.3	250.4	248.6	264.7	262.9	266.9	275.0	284.0	283.4	284.4
2507 ts		216.5	251.5	269.4	280.4	308.6	304.6	320.2	320.0	339.1	340.4	342.6	357.5
2508 ts		209.0	244.0	260.4	271.9	278.9	286.6	306.6	307.3	303.6	320.1	323.8	333.2
2509 ts		203.1	243.3	253.9	273.0	288.1	300.9	302.5	310.2	327.5	325.4	324.0	329.6
2510 ts		195.1	216.5	218.6	234.6	215.2	236.9	239.4	257.6	257.2	253.6	258.7	265.8
Mean		204.2	232.0	242.6	255.9	264.2	274.1	280.3	286.7	293.4	299.4	299.6	307.1
SD		9.10	13.71	17.59	17.04	25.97	21.76	26.19	22.31	25.55	26.13	26.99	27.74
N		10	10	10	10	10	10	10	10	10	10	10	10

ts = terminal sacrifice

Females		Individual Body Weights (grams)											Appendix F
Animal Number	Phase Week	PRE 2	RND 1	DOS 1	2	3	4	5	6	7	8	9	10
Group 3 - 17 mg Mo/kg bw/day													
3501 ts		207.7	242.0	259.3	270.2	282.5	283.0	296.3	306.0	312.0	312.5	320.4	328.6
3502 ts		204.9	242.6	266.1	287.7	297.8	298.5	315.8	321.5	328.4	334.7	336.7	339.5
3503 ts		198.3	221.4	228.7	239.6	252.4	259.1	266.9	269.8	278.5	278.3	281.1	282.4
3504 ts		210.2	240.9	251.2	260.3	273.8	279.5	286.0	289.4	294.3	303.0	309.0	304.0
3505 ts		174.9	187.9	196.2	193.3	201.1	203.3	203.0	220.4	230.3	236.1	240.2	241.2
3506 ts		194.8	227.2	228.7	247.3	249.3	266.0	274.3	284.5	287.6	290.8	297.3	305.5
3507 ts		219.3	234.5	252.9	267.0	281.2	283.2	293.8	306.1	314.1	314.0	323.8	330.6
3508 ts		214.2	242.3	258.1	268.7	282.2	292.1	302.8	304.5	316.0	322.9	320.9	323.9
3509 ts		201.9	223.9	234.8	257.0	269.3	276.4	278.0	294.9	297.4	299.0	294.7	300.1
3510 ts		206.6	240.7	261.2	279.6	283.8	303.0	313.6	320.3	321.9	331.5	340.0	338.3
Mean		203.3	230.3	243.7	257.1	267.3	274.4	283.1	291.7	298.1	302.3	306.4	309.4
SD		12.30	16.99	21.56	26.52	27.53	28.39	32.43	29.65	28.60	29.19	29.82	30.33
N		10	10	10	10	10	10	10	10	10	10	10	10

ts = terminal sacrifice

Females		Individual Body Weights (grams)											Appendix F
Animal Number	Phase Week	PRE 2	RND 1	DOS 1	2	3	4	5	6	7	8	9	10
Group 4 - 60 mg Mo/kg bw/day													
4501 ts		199.1	225.7	227.4	248.4	252.2	253.3	249.0	264.6	270.0	269.1	267.0	273.6
4502 ts		212.3	241.1	249.4	266.4	270.8	278.3	289.1	297.9	293.7	296.3	305.9	302.7
4503 ts		198.0	226.3	237.1	244.6	254.5	253.8	256.5	260.5	261.4	263.2	264.6	263.6
4504 ts		190.6	222.1	238.2	246.3	244.5	254.6	263.2	271.0	261.3	277.9	272.1	278.7
4505 ts		208.0	235.3	242.9	236.4	250.7	250.0	258.6	259.7	263.6	269.0	270.8	268.8
4506 ts		207.1	236.9	239.7	241.5	258.1	258.1	265.1	265.6	267.3	264.8	264.7	268.8
4507 ts		225.6	263.5	278.6	288.8	282.4	296.1	296.0	306.3	300.4	312.0	316.0	308.6
4508 ts		203.5	227.1	243.4	253.6	274.3	282.6	288.7	292.5	306.4	307.3	307.9	307.7
4509 ts		207.2	226.9	232.7	240.8	248.6	254.8	254.2	262.1	268.0	268.1	269.4	275.1
4510 ts		186.1	200.6	219.7	223.6	216.1	221.0	232.6	232.4	228.8	238.8	248.7	244.3
4511		211.1	234.7	236.5	243.7	258.4	258.9	263.5	263.1	277.2	283.5	279.1	276.9
4512		209.5	237.7	245.8	257.6	271.4	266.8	267.8	277.1	278.7	284.8	280.4	288.1
4513		202.9	235.2	243.4	247.3	253.5	259.3	267.1	264.8	261.0	265.9	264.3	270.1
4514		191.9	220.7	221.7	236.8	244.4	246.8	244.2	254.3	259.5	260.0	257.8	261.3
4515		207.6	244.4	264.4	274.4	282.6	300.8	307.0	311.7	313.3	324.2	323.8	334.2
4516		214.3	231.4	256.5	269.2	285.5	281.2	296.1	300.7	303.7	304.1	312.7	317.2
4517		217.6	231.0	248.8	263.0	277.6	267.8	280.2	281.6	282.5	276.4	282.4	278.4
4518		206.0	228.8	231.7	237.7	244.3	240.8	247.0	248.1	254.0	253.2	253.5	252.1
4519		200.1	214.7	221.1	231.9	234.8	239.0	238.4	250.4	252.9	256.0	258.8	257.3
4520		195.5	223.2	235.5	237.6	242.8	246.9	253.9	260.6	259.1	265.7	268.1	268.7
Mean		204.7	230.4	240.7	249.5	257.4	260.5	265.9	271.3	273.1	277.0	278.4	279.8
SD		9.58	12.53	14.52	16.08	18.11	19.58	20.76	21.07	21.36	21.93	22.48	23.20
N		20	20	20	20	20	20	20	20	20	20	20	20

ts = terminal sacrifice

Females		Individual Body Weights (grams)											Appendix F
Animal Number	Phase Week	DOS			REC								
		11	12	13	1	2	3	4	5	6	7	8	
Group 1 - 0 mg Mo/kg bw/day													
1501 ts		302.5	293.0	306.5									
1502 ts		275.0	271.4	267.1									
1503 ts		294.3	289.5	291.4									
1504 ts		294.5	290.7	285.3									
1505 ts		319.7	319.2	320.1									
1506 ts		298.5	295.5	294.7									
1507 ts		321.2	315.1	307.8									
1508 ts		294.7	293.6	291.1									
1509 ts		312.9	303.2	295.2									
1510 ts		303.0	309.3	310.3									
1511		348.6	350.3	346.5	353.2	376.6	335.1	365.5	388.5	398.7	395.8	400.6	
1512		284.8	273.4	278.0	286.3	287.9	291.3	289.7	303.5	313.4	316.1	317.9	
1513		303.7	290.9	295.3	307.7	311.1	311.5	312.7	320.1	325.7	328.9	328.6	
1514		291.3	285.2	285.0	293.1	306.1	306.4	305.3	309.6	315.6	319.2	317.6	
1515		272.5	274.5	277.4	277.6	272.3	278.4	283.7	283.3	287.4	293.4	293.3	
1516		303.3	302.6	296.8	308.4	313.3	310.7	310.7	325.2	336.3	341.4	339.8	
1517		272.6	263.4	263.7	267.4	271.8	269.3	274.1	281.3	284.9	285.3	284.9	
1518		334.6	332.4	333.2	340.6	347.0	345.3	352.7	365.7	370.2	370.5	380.0	
1519		301.6	298.2	294.0	303.9	311.7	312.0	314.3	322.2	330.8	332.8	327.3	
1520		290.4	281.7	281.8	293.9	297.9	297.2	294.8	302.2	304.3	303.2	316.1	
Mean		301.0	296.7	296.1	303.2	309.6	305.7	310.4	320.2	326.7	328.7	330.6	
SD		19.48	21.17	20.53	26.58	32.23	23.29	29.01	33.92	35.40	34.09	35.68	
N		20	20	20	10	10	10	10	10	10	10	10	

ts = terminal sacrifice

Females	Individual Body Weights (grams)										Appendix F
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Animal Number	Phase	DOS			REC							
	Week	11	12	13	1	2	3	4	5	6	7	8

## Group 2 - 5 mg Mo/kg bw/day

2501 ts	330.2	330.9	331.3
2502 ts	288.8	284.5	290.9
2503 ts	313.5	305.4	300.7
2504 ts	316.8	313.3	315.9
2505 ts	291.7	286.9	280.9
2506 ts	293.3	293.0	294.3
2507 ts	365.9	369.0	377.8
2508 ts	333.4	337.8	341.7
2509 ts	330.9	333.8	330.0
2510 ts	270.6	269.5	268.3
Mean	313.5	312.4	313.2
SD	28.02	30.45	32.78
N	10	10	10

ts = terminal sacrifice

Females	Individual Body Weights (grams)											Appendix F
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Animal Number	Phase	DOS			REC							
	Week	11	12	13	1	2	3	4	5	6	7	8

## Group 3 - 17 mg Mo/kg bw/day

3501 ts	332.0	326.3	326.7
3502 ts	350.9	352.0	350.3
3503 ts	287.2	291.8	291.6
3504 ts	301.8	305.1	297.3
3505 ts	241.1	245.5	242.9
3506 ts	311.9	298.4	303.6
3507 ts	335.3	330.3	335.2
3508 ts	337.1	337.9	333.8
3509 ts	311.4	305.8	301.5
3510 ts	336.7	346.5	349.2
Mean	314.5	314.0	313.2
SD	32.28	31.73	32.75
N	10	10	10

ts = terminal sacrifice

Females		Individual Body Weights (grams)											Appendix F
Animal Number	Phase Week	DOS			REC								
		11	12	13	1	2	3	4	5	6	7	8	
Group 4 - 60 mg Mo/kg bw/day													
4501 ts		283.1	271.4	268.3									
4502 ts		307.2	307.6	309.9									
4503 ts		269.4	265.9	266.9									
4504 ts		268.9	267.8	266.1									
4505 ts		275.9	275.5	273.8									
4506 ts		273.4	275.4	270.2									
4507 ts		312.2	309.0	303.9									
4508 ts		320.2	319.6	319.6									
4509 ts		279.9	268.1	274.7									
4510 ts		240.0	247.8	245.9									
4511		289.3	284.9	274.9	295.8	293.3	318.2	336.8	343.9	345.1	345.1	357.5	
4512		287.8	283.4	283.5	294.5	293.6	295.4	292.9	298.2	300.7	303.8	304.2	
4513		266.2	264.8	262.5	275.6	282.7	280.2	285.8	290.0	302.4	309.3	315.5	
4514		263.5	264.2	256.8	273.1	280.5	276.5	277.0	285.3	294.5	293.3	287.6	
4515		338.9	335.0	340.2	347.6	348.2	359.9	360.7	360.1	367.9	393.3	388.5	
4516		320.7	311.9	316.2	327.2	335.7	337.7	351.7	354.3	357.3	358.5	365.0	
4517		278.0	274.0	277.8	292.5	310.1	308.1	320.3	328.1	336.7	336.4	343.2	
4518		258.9	256.6	250.9	264.8	276.8	282.9	283.3	284.2	292.8	295.7	294.2	
4519		261.8	265.1	259.8	266.9	270.8	275.5	275.1	279.8	285.4	282.8	287.0	
4520		271.8	268.9	268.4	281.0	283.9	287.7	296.0	297.6	300.5	313.6	305.8	
Mean		283.4	280.8	279.5	291.9	297.6	302.2	308.0	312.2	318.3	323.2	324.9	
SD		24.77	23.27	25.20	26.81	25.94	28.61	31.95	31.24	30.21	34.57	36.06	
N		20	20	20	10	10	10	10	10	10	10	10	

ts = terminal sacrifice

Males		Individual Body Weight Change from Baseline (RND 7) (grams)												Appendix G	
Animal Number	Phase Week	DOS	1	2	3	4	5	6	7	8	9	10	11	12	13
Group 1 - 0 mg Mo/kg bw/day															
1001 ts		40.2	76.7	118.4	137.0	173.1	183.5	202.7	218.3	227.6	236.1	246.0	244.4	249.6	
1002 ts		48.6	95.1	101.9	150.6	182.2	204.8	214.6	238.4	241.0	255.6	276.7	274.5	280.7	
1003 ts		34.6	61.9	89.9	72.2	109.3	137.5	161.8	179.8	188.4	192.2	212.3	217.9	226.7	
1004 ts		35.5	63.3	92.6	119.5	140.5	159.3	178.1	187.8	196.5	209.1	220.6	214.6	216.8	
1005 ts		43.3	76.8	119.6	142.8	173.6	198.9	221.1	237.4	251.7	264.7	283.8	288.2	295.7	
1006 ts		39.8	80.0	106.6	126.5	154.0	172.4	199.5	217.8	241.2	251.1	268.5	274.9	283.1	
1007 ts		31.6	58.8	89.0	103.2	120.8	133.4	148.0	160.7	160.7	167.4	174.9	170.3	176.4	
1009 ts		34.9	71.9	108.3	129.2	154.2	179.4	196.2	201.3	209.2	214.9	230.9	229.6	233.3	
1010 ts		45.1	78.7	114.3	128.4	154.6	182.4	203.4	214.9	219.9	228.7	243.8	242.9	237.1	
1011		44.0	82.4	121.4	146.7	168.3	190.7	210.4	232.1	241.0	259.1	278.0	263.7	269.0	
1012		28.9	56.1	91.1	101.5	120.1	136.7	151.0	164.2	177.9	185.5	205.0	194.1	206.3	
1013		34.3	69.6	101.3	114.7	138.1	154.5	173.0	178.8	185.3	186.5	198.2	193.9	200.8	
1014		40.2	81.1	122.1	148.6	163.0	193.2	217.9	238.2	254.1	274.0	285.3	276.4	271.2	
1015		31.6	63.1	93.4	106.8	117.7	134.2	146.2	156.8	162.9	165.2	170.9	173.9	174.7	
1016		49.8	93.7	131.2	163.5	191.2	213.1	235.3	256.4	269.4	280.9	295.3	306.0	315.7	
1017		39.2	68.2	105.1	123.6	142.7	161.3	176.7	185.7	195.6	201.9	211.0	219.0	233.0	
1018		36.8	74.1	109.4	129.9	151.3	167.8	187.4	206.3	219.5	227.3	240.2	248.9	262.2	
1019		37.4	75.6	119.1	141.2	163.7	186.9	202.1	217.0	216.8	231.0	257.0	268.3	271.6	
1020		38.1	76.8	111.4	130.6	152.8	166.1	186.3	200.1	209.7	221.7	233.7	236.3	236.5	
1021 ts		43.2	85.1	123.1	146.5	173.8	194.5	211.5	228.2	239.2	253.3	278.0	277.7	285.8	
Mean		38.9	74.5	108.5	128.2	152.3	172.5	191.2	206.0	215.4	225.3	240.5	240.8	246.3	
SD		5.62	10.63	12.73	21.18	22.68	24.38	25.65	28.77	30.84	34.62	37.35	38.69	38.97	
N		20	20	20	20	20	20	20	20	20	20	20	20	20	

ts = terminal sacrifice



Males		Individual Body Weight Change from Baseline (RND 7) (grams)												Appendix G	
Animal Number	Phase Week	DOS	1	2	3	4	5	6	7	8	9	10	11	12	13
Group 2 - 5 mg Mo/kg bw/day															
2001 ts		39.0	76.1	114.2	132.8	147.1	163.3	175.1	186.1	193.9	205.5	219.8	208.3	218.3	
2002 ts		38.6	73.6	104.9	120.5	141.8	165.0	175.4	193.1	202.5	213.3	231.3	228.3	235.2	
2003 ts		34.4	61.7	94.6	117.7	140.5	164.0	176.2	191.5	201.5	217.1	233.2	239.7	254.9	
2004 ts		46.1	86.0	124.2	148.4	163.9	182.1	188.7	210.4	222.2	229.1	237.8	221.6	220.6	
2005 ts		47.0	95.3	122.2	138.6	169.4	191.2	207.9	225.7	236.9	241.3	258.7	251.6	248.0	
2006 ts		46.8	83.1	116.0	132.7	158.7	177.6	186.7	197.4	210.4	219.7	237.9	228.2	222.1	
2007 ts		36.0	61.6	92.6	114.1	136.7	153.8	166.3	177.7	189.5	197.0	206.4	202.9	213.9	
2008 ts		39.0	73.5	111.6	138.7	164.2	186.3	208.4	224.6	239.7	259.0	273.7	276.9	279.5	
2009 ts		49.3	94.0	138.9	169.4	200.6	219.8	244.0	264.1	270.3	286.1	314.6	328.0	328.6	
2010 ts		31.2	60.3	82.3	97.7	127.2	144.8	156.9	164.9	175.4	183.1	192.8	206.4	204.8	
Mean		40.7	76.5	110.2	131.1	155.0	174.8	188.6	203.6	214.2	225.1	240.6	239.2	242.6	
SD		6.17	12.97	16.91	19.95	21.13	21.53	25.49	28.69	28.32	30.40	34.87	38.53	37.62	
N		10	10	10	10	10	10	10	10	10	10	10	10	10	

ts = terminal sacrifice

Males		Individual Body Weight Change from Baseline (RND 7) (grams)												Appendix G
Animal Number	Phase	DOS												
	Week	1	2	3	4	5	6	7	8	9	10	11	12	13
Group 3 - 17 mg Mo/kg bw/day														
3001 ts		33.0	68.6	103.5	121.0	134.2	154.0	168.2	176.6	182.9	196.6	206.2	207.3	210.0
3002 ts		26.3	59.4	88.0	105.4	126.4	150.3	167.1	180.0	196.1	209.1	223.4	223.8	229.3
3003 ts		41.4	80.5	116.9	134.8	160.4	176.1	190.1	200.8	212.1	223.4	235.9	242.5	249.6
3005 ts		22.7	59.5	87.6	97.1	122.3	143.0	165.3	175.5	184.3	191.1	194.4	195.9	197.8
3006 ts		38.6	66.6	108.6	126.7	145.0	164.5	182.9	194.4	207.7	220.8	234.7	234.2	232.2
3007 ts		32.8	62.3	91.2	103.9	119.8	145.3	154.8	169.1	179.4	185.5	197.6	190.0	194.1
3008 ts		35.0	68.8	110.7	136.6	153.0	172.9	191.6	204.8	224.8	239.8	253.5	264.1	264.5
3009 ts		37.9	77.4	119.8	139.7	161.2	184.2	197.6	214.2	223.5	235.6	243.7	246.8	248.8
3010 ts		41.8	84.4	129.1	164.9	193.1	216.3	236.8	249.3	259.9	274.8	290.2	288.0	295.6
3011 ts		36.4	82.3	127.2	149.7	174.3	198.3	220.3	233.7	244.1	263.1	275.5	270.1	278.6
Mean		34.6	71.0	108.3	128.0	149.0	170.5	187.5	199.8	211.5	224.0	235.5	236.3	240.1
SD		6.19	9.49	15.48	21.57	24.02	24.04	25.83	26.51	27.01	29.89	31.82	32.51	33.85
N		10	10	10	10	10	10	10	10	10	10	10	10	10

ts = terminal sacrifice

Males		Individual Body Weight Change from Baseline (RND 7) (grams)												Appendix G
Animal Number	Phase	DOS												
	Week	1	2	3	4	5	6	7	8	9	10	11	12	13
Group 4 - 60 mg Mo/kg bw/day														
4001 ts		26.9	49.7	76.6	90.4	104.3	120.9	127.9	134.1	143.2	146.9	157.0	150.6	153.5
4002 ts		16.9	39.0	60.5	69.5	75.0	87.6	96.1	95.2	100.2	107.3	121.4	120.4	112.6
4003 ts		33.1	67.3	91.8	107.0	131.0	142.1	163.9	173.2	177.4	181.2	186.5	171.7	175.7
4004 ts		27.9	57.5	91.3	97.7	118.9	138.2	149.3	163.8	172.2	175.0	187.9	187.7	187.0
4005 ts		27.9	58.6	84.0	96.8	113.8	128.6	144.3	154.0	163.2	171.8	184.2	184.9	191.7
4006 ts		28.9	59.6	92.9	108.6	127.5	144.0	158.2	170.3	178.2	179.4	189.5	185.4	195.3
4007 ts		26.9	54.8	79.9	85.0	103.8	121.1	138.3	143.8	155.9	161.1	173.7	169.8	168.9
4009 ts		26.0	46.9	82.5	100.4	107.7	118.7	138.4	139.0	148.8	159.4	169.6	173.1	173.3
4010 ts		32.9	70.4	94.1	106.3	128.0	141.6	160.4	177.8	176.0	187.9	200.9	196.0	195.5
4011		25.0	52.4	74.8	118.1	90.1	101.6	117.2	123.1	126.2	137.8	140.0	141.8	139.4
4012		45.2	66.4	95.7	101.1	120.3	135.8	149.1	154.6	153.3	162.9	170.5	161.9	163.7
4013		30.2	56.7	86.5	94.2	105.6	112.0	127.0	136.4	138.6	140.8	156.6	155.1	148.3
4014		38.5	72.1	98.8	117.4	134.5	145.5	158.6	168.2	177.4	187.8	194.6	192.9	202.0
4015		26.2	47.2	73.2	78.2	91.6	15.2	53.3	77.7	84.5	101.4	108.9	103.7	108.3
4016 u1		38.0	75.1	110.1	134.6	151.7	171.9							
4017		25.6	40.0	73.3	93.9	112.6	117.1	135.5	141.1	145.3	160.3	163.2	163.0	166.9
4018		21.2	31.6	78.1	100.7	109.7	130.8	152.3	155.7	161.2	169.7	183.3	183.8	184.1
4019		28.3	54.1	80.9	99.4	111.0	129.4	143.9	150.8	159.2	165.5	177.8	180.9	183.5
4020		24.0	34.1	53.3	63.3	76.4	93.5	102.8	102.9	105.8	99.5	107.1	98.9	102.9
4021 ts		23.2	47.6	82.3	97.9	114.4	124.6	140.4	149.9	166.9	170.0	187.5	176.6	171.9
Mean		28.6	54.1	83.0	98.0	111.4	121.0	134.6	142.7	149.1	156.1	166.3	163.1	164.4
SD		6.43	12.40	13.08	16.34	18.89	31.53	27.03	27.03	27.54	27.48	28.27	28.72	30.05
N		20	20	20	20	20	20	19	19	19	19	19	19	19

ts = terminal sacrifice, u1 = found dead





Females		Individual Body Weight Change from Baseline (RND 7) (grams)												Appendix G
Animal Number	Phase	DOS												
	Week	1	2	3	4	5	6	7	8	9	10	11	12	13
Group 1 - 0 mg Mo/kg bw/day														
1501 ts		6.1	16.9	32.1	37.4	50.3	49.9	60.2	62.6	71.3	70.2	81.6	72.1	85.6
1502 ts		-4.2	18.3	20.6	22.6	13.7	27.9	37.4	34.8	33.0	42.9	47.6	44.0	39.7
1503 ts		14.4	20.4	34.3	33.6	41.5	44.7	53.6	17.6	33.1	67.3	71.0	66.2	68.1
1504 ts		0.9	14.9	27.9	29.5	28.7	37.4	49.7	51.7	44.9	52.2	59.8	56.0	50.6
1505 ts		11.6	22.7	42.4	47.5	55.7	62.1	70.7	75.9	72.1	72.8	81.3	80.8	81.7
1506 ts		9.9	13.6	28.4	33.5	41.2	42.9	52.0	53.9	59.5	61.3	70.8	67.8	67.0
1507 ts		5.8	29.1	41.6	39.0	42.4	62.9	78.6	80.2	75.0	86.9	97.3	91.2	83.9
1508 ts		8.4	20.4	31.9	36.0	48.0	52.3	56.3	60.5	66.8	66.2	73.4	72.3	69.8
1509 ts		7.2	13.8	26.3	36.6	43.8	42.0	68.6	104.9	70.0	72.1	77.7	68.0	60.0
1510 ts		13.6	23.3	25.3	31.6	45.6	46.6	46.4	56.4	62.6	62.5	60.4	66.7	67.7
1511		17.3	23.9	44.1	51.2	62.8	67.1	76.3	86.4	82.5	84.5	98.5	100.2	96.4
1512		7.0	11.7	26.6	28.0	28.1	40.7	48.8	49.1	60.1	65.2	69.8	58.4	63.0
1513		1.6	22.4	31.6	36.8	35.1	45.4	55.2	52.4	46.8	54.6	61.6	48.8	53.2
1515		10.6	20.8	22.1	29.5	40.9	43.4	42.7	50.6	60.0	59.0	59.1	61.1	64.0
1516		9.1	32.3	41.7	47.4	53.5	62.3	66.9	61.3	59.2	66.4	73.8	73.1	67.3
1517		14.7	24.0	31.3	28.9	44.2	48.4	48.1	53.9	65.1	67.5	73.2	64.0	64.3
1518		20.4	34.5	49.0	48.9	67.5	76.3	78.9	82.5	93.4	97.4	101.0	98.8	99.6
1519		3.8	25.5	39.0	46.4	46.0	62.2	65.1	69.5	65.6	77.4	83.7	80.3	76.1
1520		5.7	23.0	36.2	39.6	36.6	53.4	52.8	55.6	56.5	63.2	68.9	60.2	60.3
Mean		8.6	21.7	33.3	37.1	43.5	50.9	58.3	61.0	62.0	67.9	74.2	70.0	69.4
SD		6.00	6.12	7.94	8.10	12.37	11.91	12.34	19.48	15.14	12.65	14.17	15.16	15.07
N		19	19	19	19	19	19	19	19	19	19	19	19	19

ts = terminal sacrifice

Females		Individual Body Weight Change from Baseline (RND 7) (grams)												Appendix G	
Animal Number	Phase Week	DOS	1	2	3	4	5	6	7	8	9	10	11	12	13
Group 2 - 5 mg Mo/kg bw/day															
2501 ts			11.1	28.3	32.6	44.9	52.1	59.9	58.9	71.7	74.1	74.1	87.5	88.2	88.6
2502 ts			14.1	24.4	30.8	43.6	55.0	59.4	61.1	72.4	73.1	76.8	78.3	74.0	80.4
2503 ts			6.3	8.8	30.8	37.9	40.2	35.0	56.2	63.5	55.5	69.4	82.1	74.0	69.3
2504 ts			15.7	26.8	34.6	51.9	59.7	64.1	66.2	73.0	77.5	80.9	88.5	85.0	87.6
2505 ts			1.1	30.2	42.7	37.9	33.3	55.8	58.5	59.3	52.9	68.3	74.0	69.2	63.2
2506 ts			10.0	16.1	14.3	30.4	28.6	32.6	40.7	49.7	49.1	50.1	59.0	58.7	60.0
2507 ts			17.9	28.9	57.1	53.1	68.7	68.5	87.6	88.9	91.1	106.0	114.4	117.5	126.3
2508 ts			16.4	27.9	34.9	42.6	62.6	63.3	59.6	76.1	79.8	89.2	89.4	93.8	97.7
2509 ts			10.6	29.7	44.8	57.6	59.2	66.9	84.2	82.1	80.7	86.3	87.6	90.5	86.7
2510 ts			2.1	18.1	-1.3	20.4	22.9	41.1	40.7	37.1	42.2	49.3	54.1	53.0	51.8
Mean			10.5	23.9	32.1	42.0	48.2	54.7	61.4	67.4	67.6	75.0	81.5	80.4	81.2
SD			5.84	7.19	16.15	11.11	15.82	13.39	15.39	15.42	16.31	17.28	16.97	18.76	21.63
N			10	10	10	10	10	10	10	10	10	10	10	10	10

ts = terminal sacrifice

Females		Individual Body Weight Change from Baseline (RND 7) (grams)												Appendix G	
Animal Number	Phase Week	DOS	1	2	3	4	5	6	7	8	9	10	11	12	13
Group 3 - 17 mg Mo/kg bw/day															
3501 ts		17.3	28.2	40.5	41.0	54.3	64.0	70.0	70.5	78.4	86.6	90.0	84.3	84.7	
3502 ts		23.5	45.1	55.2	55.9	73.2	78.9	85.8	92.1	94.1	96.9	108.3	109.4	107.7	
3503 ts		7.3	18.2	31.0	37.7	45.5	48.4	57.1	56.9	59.7	61.0	65.8	70.4	70.2	
3504 ts		10.3	19.4	32.9	38.6	45.1	48.5	53.4	62.1	68.1	63.1	60.9	64.2	56.4	
3505 ts		8.3	5.4	13.2	15.4	15.1	32.5	42.4	48.2	52.3	53.3	53.2	57.6	55.0	
3506 ts		1.5	20.1	22.1	38.8	47.1	57.3	60.4	63.6	70.1	78.3	84.7	71.2	76.4	
3507 ts		18.4	32.5	46.7	48.7	59.3	71.6	79.6	79.5	89.3	96.1	100.8	95.8	100.7	
3508 ts		15.8	26.4	39.9	49.8	60.5	62.2	73.7	80.6	78.6	81.6	94.8	95.6	91.5	
3509 ts		10.9	33.1	45.4	52.5	54.1	71.0	73.5	75.1	70.8	76.2	87.5	81.9	77.6	
3510 ts		20.5	38.9	43.1	62.3	72.9	79.6	81.2	90.8	99.3	97.6	96.0	105.8	108.5	
Mean		13.4	26.7	37.0	44.1	52.7	61.4	67.7	71.9	76.1	79.1	84.2	83.6	82.9	
SD		6.82	11.48	12.45	13.03	16.64	15.01	13.89	14.39	14.95	15.88	18.24	17.75	19.37	
N		10	10	10	10	10	10	10	10	10	10	10	10	10	

ts = terminal sacrifice



Females		Individual Body Weight Change from Baseline (RND 7) (grams)												Appendix G	
Animal Number	Phase Week	DOS	1	2	3	4	5	6	7	8	9	10	11	12	13
Group 4 - 60 mg Mo/kg bw/day															
4501 ts		1.7	22.7	26.5	27.6	23.3	38.9	44.3	43.4	41.3	47.9	57.4	45.7	42.6	
4502 ts		8.3	25.3	29.7	37.2	48.0	56.8	52.6	55.2	64.8	61.6	66.1	66.5	68.8	
4503 ts		10.8	18.3	28.2	27.5	30.2	34.2	35.1	36.9	38.3	37.3	43.1	39.6	40.6	
4504 ts		16.1	24.2	22.4	32.5	41.1	48.9	39.2	55.8	50.0	56.6	46.8	45.7	44.0	
4505 ts		7.6	1.1	15.4	14.7	23.3	24.4	28.3	33.7	35.5	33.5	40.6	40.2	38.5	
4506 ts		2.8	4.6	21.2	21.2	28.2	28.7	30.4	27.9	27.8	31.9	36.5	38.5	33.3	
4507 ts		15.1	25.3	18.9	32.6	32.5	42.8	36.9	48.5	52.5	45.1	48.7	45.5	40.4	
4508 ts		16.3	26.5	47.2	55.5	61.6	65.4	79.3	80.2	80.8	80.6	93.1	92.5	92.5	
4509 ts		5.8	13.9	21.7	27.9	27.3	35.2	41.1	41.2	42.5	48.2	53.0	41.2	47.8	
4510 ts		19.1	23.0	15.5	20.4	32.0	31.8	28.2	38.2	48.1	43.7	39.4	47.2	45.3	
4511		1.8	9.0	23.7	24.2	28.8	28.4	42.5	48.8	44.4	42.2	54.6	50.2	40.2	
4512		8.1	19.9	33.7	29.1	30.1	39.4	41.0	47.1	42.7	50.4	50.1	45.7	45.8	
4513		8.2	12.1	18.3	24.1	31.9	29.6	25.8	30.7	29.1	34.9	31.0	29.6	27.3	
4514		1.0	16.1	23.7	26.1	23.5	33.6	38.8	39.3	37.1	40.6	42.8	43.5	36.1	
4515		20.0	30.0	38.2	56.4	62.6	67.3	68.9	79.8	79.4	89.8	94.5	90.6	95.8	
4516		25.1	37.8	54.1	49.8	64.7	69.3	72.3	72.7	81.3	85.8	89.3	80.5	84.8	
4517		17.8	32.0	46.6	36.8	49.2	50.6	51.5	45.4	51.4	47.4	47.0	43.0	46.8	
4518		2.9	8.9	15.5	12.0	18.2	19.3	25.2	24.4	24.7	23.3	30.1	27.8	22.1	
4519		6.4	17.2	20.1	24.3	23.7	35.7	38.2	41.3	44.1	42.6	47.1	50.4	45.1	
4520		12.3	14.4	19.6	23.7	30.7	37.4	35.9	42.5	44.9	45.5	48.6	45.7	45.2	
Mean		10.4	19.1	27.0	30.2	35.5	40.9	42.8	46.7	48.0	49.4	53.0	50.5	49.2	
SD		7.05	9.38	11.36	12.03	14.15	14.42	15.27	15.64	16.71	17.74	18.94	18.02	20.29	
N		20	20	20	20	20	20	20	20	20	20	20	20	20	

ts = terminal sacrifice





Males		Individual Body Weight Change from Interval to Interval (grams)											Appendix H
Animal Number	Phase Week	PRE-RND 2-1	RND-DOS 1-1	DOS 1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11
Group 1 - 0 mg Mo/kg bw/day													
1001 ts		65.7	40.2	36.5	41.7	18.6	36.1	10.4	19.2	15.6	9.3	8.5	9.9
1002 ts		74.2	48.6	46.5	6.8	48.7	31.6	22.6	9.8	23.8	2.6	14.6	21.1
1003 ts		62.9	34.6	27.3	28.0	-17.7	37.1	28.2	24.3	18.0	8.6	3.8	20.1
1004 ts		59.4	35.5	27.8	29.3	26.9	21.0	18.8	18.8	9.7	8.7	12.6	11.5
1005 ts		67.6	43.3	33.5	42.8	23.2	30.8	25.3	22.2	16.3	14.3	13.0	19.1
1006 ts		68.9	39.8	40.2	26.6	19.9	27.5	18.4	27.1	18.3	23.4	9.9	17.4
1007 ts		58.8	31.6	27.2	30.2	14.2	17.6	12.6	14.6	12.7	0.0	6.7	7.5
1009 ts		68.2	34.9	37.0	36.4	20.9	25.0	25.2	16.8	5.1	7.9	5.7	16.0
1010 ts		57.6	45.1	33.6	35.6	14.1	26.2	27.8	21.0	11.5	5.0	8.8	15.1
1011		57.5	44.0	38.4	39.0	25.3	21.6	22.4	19.7	21.7	8.9	18.1	18.9
1012		59.6	28.9	27.2	35.0	10.4	18.6	16.6	14.3	13.2	13.7	7.6	19.5
1013		52.9	34.3	35.3	31.7	13.4	23.4	16.4	18.5	5.8	6.5	1.2	11.7
1014		66.8	40.2	40.9	41.0	26.5	14.4	30.2	24.7	20.3	15.9	19.9	11.3
1015		57.4	31.6	31.5	30.3	13.4	10.9	16.5	12.0	10.6	6.1	2.3	5.7
1016		67.8	49.8	43.9	37.5	32.3	27.7	21.9	22.2	21.1	13.0	11.5	14.4
1017		60.0	39.2	29.0	36.9	18.5	19.1	18.6	15.4	9.0	9.9	6.3	9.1
1018		53.5	36.8	37.3	35.3	20.5	21.4	16.5	19.6	18.9	13.2	7.8	12.9
1019		65.4	37.4	38.2	43.5	22.1	22.5	23.2	15.2	14.9	-0.2	14.2	26.0
1020		67.1	38.1	38.7	34.6	19.2	22.2	13.3	20.2	13.8	9.6	12.0	12.0
1021 ts		60.2	43.2	41.9	38.0	23.4	27.3	20.7	17.0	16.7	11.0	14.1	24.7
Mean		62.6	38.9	35.6	34.0	19.7	24.1	20.3	18.6	14.9	9.4	9.9	15.2
SD		5.69	5.62	5.83	8.06	12.12	6.69	5.43	4.36	5.21	5.53	4.99	5.58
N		20	20	20	20	20	20	20	20	20	20	20	20

ts = terminal sacrifice

Males		Individual Body Weight Change from Interval to Interval (grams)											Appendix H
Animal Number	Phase Week	PRE-RND 2-1	RND-DOS 1-1	DOS 1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11
Group 2 - 5 mg Mo/kg bw/day													
2001 ts		66.2	39.0	37.1	38.1	18.6	14.3	16.2	11.8	11.0	7.8	11.6	14.3
2002 ts		52.7	38.6	35.0	31.3	15.6	21.3	23.2	10.4	17.7	9.4	10.8	18.0
2003 ts		57.8	34.4	27.3	32.9	23.1	22.8	23.5	12.2	15.3	10.0	15.6	16.1
2004 ts		70.4	46.1	39.9	38.2	24.2	15.5	18.2	6.6	21.7	11.8	6.9	8.7
2005 ts		75.1	47.0	48.3	26.9	16.4	30.8	21.8	16.7	17.8	11.2	4.4	17.4
2006 ts		64.3	46.8	36.3	32.9	16.7	26.0	18.9	9.1	10.7	13.0	9.3	18.2
2007 ts		58.3	36.0	25.6	31.0	21.5	22.6	17.1	12.5	11.4	11.8	7.5	9.4
2008 ts		58.1	39.0	34.5	38.1	27.1	25.5	22.1	22.1	16.2	15.1	19.3	14.7
2009 ts		70.5	49.3	44.7	44.9	30.5	31.2	19.2	24.2	20.1	6.2	15.8	28.5
2010 ts		58.1	31.2	29.1	22.0	15.4	29.5	17.6	12.1	8.0	10.5	7.7	9.7
Mean		63.2	40.7	35.8	33.6	20.9	23.9	19.8	13.8	15.0	10.7	10.9	15.5
SD		7.24	6.17	7.29	6.51	5.25	5.88	2.65	5.60	4.52	2.54	4.71	5.83
N		10	10	10	10	10	10	10	10	10	10	10	10

ts = terminal sacrifice

Males		Individual Body Weight Change from Interval to Interval (grams)											Appendix H
Animal Number	Phase Week	PRE-RND 2-1	RND-DOS 1-1	DOS 1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11
Group 3 - 17 mg Mo/kg bw/day													
3001 ts		57.9	33.0	35.6	34.9	17.5	13.2	19.8	14.2	8.4	6.3	13.7	9.6
3002 ts		51.6	26.3	33.1	28.6	17.4	21.0	23.9	16.8	12.9	16.1	13.0	14.3
3003 ts		67.4	41.4	39.1	36.4	17.9	25.6	15.7	14.0	10.7	11.3	11.3	12.5
3005 ts		44.5	22.7	36.8	28.1	9.5	25.2	20.7	22.3	10.2	8.8	6.8	3.3
3006 ts		50.8	38.6	28.0	42.0	18.1	18.3	19.5	18.4	11.5	13.3	13.1	13.9
3007 ts		54.3	32.8	29.5	28.9	12.7	15.9	25.5	9.5	14.3	10.3	6.1	12.1
3008 ts		68.8	35.0	33.8	41.9	25.9	16.4	19.9	18.7	13.2	20.0	15.0	13.7
3009 ts		61.4	37.9	39.5	42.4	19.9	21.5	23.0	13.4	16.6	9.3	12.1	8.1
3010 ts		71.7	41.8	42.6	44.7	35.8	28.2	23.2	20.5	12.5	10.6	14.9	15.4
3011 ts		62.1	36.4	45.9	44.9	22.5	24.6	24.0	22.0	13.4	10.4	19.0	12.4
Mean		59.1	34.6	36.4	37.3	19.7	21.0	21.5	17.0	12.4	11.6	12.5	11.5
SD		8.81	6.19	5.60	6.83	7.26	4.93	2.92	4.17	2.30	3.93	3.82	3.62
N		10	10	10	10	10	10	10	10	10	10	10	10

ts = terminal sacrifice

Males		Individual Body Weight Change from Interval to Interval (grams)											Appendix H
Animal Number	Phase Week	PRE-RND 2-1	RND-DOS 1-1	DOS 1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11
Group 4 - 60 mg Mo/kg bw/day													
4001 ts		56.1	26.9	22.8	26.9	13.8	13.9	16.6	7.0	6.2	9.1	3.7	10.1
4002 ts		48.1	16.9	22.1	21.5	9.0	5.5	12.6	8.5	-0.9	5.0	7.1	14.1
4003 ts		66.5	33.1	34.2	24.5	15.2	24.0	11.1	21.8	9.3	4.2	3.8	5.3
4004 ts		56.9	27.9	29.6	33.8	6.4	21.2	19.3	11.1	14.5	8.4	2.8	12.9
4005 ts		52.9	27.9	30.7	25.4	12.8	17.0	14.8	15.7	9.7	9.2	8.6	12.4
4006 ts		62.4	28.9	30.7	33.3	15.7	18.9	16.5	14.2	12.1	7.9	1.2	10.1
4007 ts		53.0	26.9	27.9	25.1	5.1	18.8	17.3	17.2	5.5	12.1	5.2	12.6
4009 ts		57.0	26.0	20.9	35.6	17.9	7.3	11.0	19.7	0.6	9.8	10.6	10.2
4010 ts		59.2	32.9	37.5	23.7	12.2	21.7	13.6	18.8	17.4	-1.8	11.9	13.0
4011		53.4	25.0	27.4	22.4	43.3	-28.0	11.5	15.6	5.9	3.1	11.6	2.2
4012		50.0	45.2	21.2	29.3	5.4	19.2	15.5	13.3	5.5	-1.3	9.6	7.6
4013		62.1	30.2	26.5	29.8	7.7	11.4	6.4	15.0	9.4	2.2	2.2	15.8
4014		73.0	38.5	33.6	26.7	18.6	17.1	11.0	13.1	9.6	9.2	10.4	6.8
4015		49.3	26.2	21.0	26.0	5.0	13.4	-76.4	38.1	24.4	6.8	16.9	7.5
4016 u1		70.6	38.0	37.1	35.0	24.5	17.1	20.2					
4017		51.3	25.6	14.4	33.3	20.6	18.7	4.5	18.4	5.6	4.2	15.0	2.9
4018		50.1	21.2	10.4	46.5	22.6	9.0	21.1	21.5	3.4	5.5	8.5	13.6
4019		57.8	28.3	25.8	26.8	18.5	11.6	18.4	14.5	6.9	8.4	6.3	12.3
4020		66.3	24.0	10.1	19.2	10.0	13.1	17.1	9.3	0.1	2.9	-6.3	7.6
4021 ts		68.5	23.2	24.4	34.7	15.6	16.5	10.2	15.8	9.5	17.0	3.1	17.5
Mean		58.2	28.6	25.4	29.0	15.0	13.4	9.6	16.2	8.1	6.4	7.0	10.2
SD		7.59	6.43	7.85	6.39	8.91	10.89	20.72	6.70	6.11	4.53	5.45	4.18
N		20	20	20	20	20	20	20	19	19	19	19	19

ts = terminal sacrifice, u1 = found dead

Males		Individual Body Weight Change from Interval to Interval (grams)										Appendix H
Animal Number	Phase Week	DOS		DOS-REC	REC							
		11-12	12-13	13-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	
Group 1 - 0 mg Mo/kg bw/day												
1001 ts		-1.6	5.2									
1002 ts		-2.2	6.2									
1003 ts		5.6	8.8									
1004 ts		-6.0	2.2									
1005 ts		4.4	7.5									
1006 ts		6.4	8.2									
1007 ts		-4.6	6.1									
1009 ts		-1.3	3.7									
1010 ts		-0.9	-5.8									
1011		-14.3	5.3	12.3	16.3	3.4	12.3	13.8	21.7	2.1	14.1	
1012		-10.9	12.2	-1.4	12.7	2.4	9.1	13.8	13.2	17.4	0.0	
1013		-4.3	6.9	8.8	16.8	5.4	2.7	6.8	15.2	2.0	9.6	
1014		-8.9	-5.2	21.4	7.6	0.1	7.7	18.7	8.3	20.0	1.8	
1015		3.0	0.8	8.2	11.2	3.4	2.3	12.4	8.0	12.9	0.9	
1016		10.7	9.7	6.6	16.2	4.4	7.4	5.9	17.5	19.6	-2.6	
1017		8.0	14.0	-3.1	19.1	-6.0	11.0	2.8	17.0	12.1	-5.2	
1018		8.7	13.3	2.0	24.3	-5.9	14.3	8.6	18.6	7.7	9.5	
1019		11.3	3.3	17.7	21.1	7.6	9.2	19.5	17.0	18.9	11.0	
1020		2.6	0.2	4.3	19.8	0.9	4.4	8.9	17.5	3.5	0.8	
1021 ts		-0.3	8.1									
Mean		0.3	5.5	7.7	16.5	1.6	8.0	11.1	15.4	11.6	4.0	
SD		7.17	5.33	7.85	4.96	4.50	4.00	5.48	4.40	7.35	6.51	
N		20	20	10	10	10	10	10	10	10	10	

ts = terminal sacrifice



Males	Individual Body Weight Change from Interval to Interval (grams)	Appendix H
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Animal Number	Phase Week	DOS		DOS-REC	REC							
		11-12	12-13	13-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	

## Group 2 - 5 mg Mo/kg bw/day

2001 ts	-11.5	10.0
2002 ts	-3.0	6.9
2003 ts	6.5	15.2
2004 ts	-16.2	-1.0
2005 ts	-7.1	-3.6
2006 ts	-9.7	-6.1
2007 ts	-3.5	11.0
2008 ts	3.2	2.6
2009 ts	13.4	0.6
2010 ts	13.6	-1.6
Mean	-1.4	3.4
SD	10.31	7.03
N	10	10

ts = terminal sacrifice

Males	Individual Body Weight Change from Interval to Interval (grams)	Appendix H
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Animal Number	Phase Week	DOS		DOS-REC	REC							
		11-12	12-13	13-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	

## Group 3 - 17 mg Mo/kg bw/day

3001 ts	1.1	2.7
3002 ts	0.4	5.5
3003 ts	6.6	7.1
3005 ts	1.5	1.9
3006 ts	-0.5	-2.0
3007 ts	-7.6	4.1
3008 ts	10.6	0.4
3009 ts	3.1	2.0
3010 ts	-2.2	7.6
3011 ts	-5.4	8.5
Mean	0.8	3.8
SD	5.33	3.39
N	10	10

ts = terminal sacrifice

Males		Individual Body Weight Change from Interval to Interval (grams)										Appendix H
Animal Number	Phase Week	DOS		DOS-REC	REC							
		11-12	12-13	13-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	
Group 4 - 60 mg Mo/kg bw/day												
4001	ts	-6.4	2.9									
4002	ts	-1.0	-7.8									
4003	ts	-14.8	4.0									
4004	ts	-0.2	-0.7									
4005	ts	0.7	6.8									
4006	ts	-4.1	9.9									
4007	ts	-3.9	-0.9									
4009	ts	3.5	0.2									
4010	ts	-4.9	-0.5									
4011		1.8	-2.4	21.8	17.3	3.1	5.3	8.1	12.3	10.1	2.9	
4012		-8.6	1.8	22.6	20.3	12.4	9.6	11.0	9.2	8.5	5.2	
4013		-1.5	-6.8	31.5	22.1	10.5	10.8	17.6	14.2	10.7	2.6	
4014		-1.7	9.1	17.2	16.1	8.9	8.2	10.8	9.9	9.8	4.2	
4015		-5.2	4.6	27.4	17.4	6.7	8.5	13.8	13.3	13.8	3.1	
4016	u1											
4017		-0.2	3.9	28.7	27.7	2.1	13.2	16.7	20.1	15.4	6.5	
4018		0.5	0.3	29.1	17.2	14.9	11.6	15.2	6.4	8.3	13.8	
4019		3.1	2.6	7.9	18.3	5.1	13.7	4.9	14.3	8.6	5.7	
4020		-8.2	4.0	34.5	13.9	18.4	19.0	10.0	18.1	11.1	6.0	
4021	ts	-10.9	-4.7									
Mean		-3.3	1.4	24.5	18.9	9.1	11.1	12.0	13.1	10.7	5.6	
SD		4.90	4.80	8.19	4.04	5.47	3.95	4.17	4.30	2.45	3.41	
N		19	19	9	9	9	9	9	9	9	9	

ts = terminal sacrifice, u1 = found dead

Females		Individual Body Weight Change from Interval to Interval (grams)											Appendix H
Animal Number	Phase Week	PRE-RND 2-1	RND-DOS 1-1	DOS 1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11
Group 1 - 0 mg Mo/kg bw/day													
1501 ts		26.7	6.1	10.8	15.2	5.3	12.9	-0.4	10.3	2.4	8.7	-1.1	11.4
1502 ts		16.5	-4.2	22.5	2.3	2.0	-8.9	14.2	9.5	-2.6	-1.8	9.9	4.7
1503 ts		19.2	14.4	6.0	13.9	-0.7	7.9	3.2	8.9	-36.0	15.5	34.2	3.7
1504 ts		23.3	0.9	14.0	13.0	1.6	-0.8	8.7	12.3	2.0	-6.8	7.3	7.6
1505 ts		24.1	11.6	11.1	19.7	5.1	8.2	6.4	8.6	5.2	-3.8	0.7	8.5
1506 ts		21.6	9.9	3.7	14.8	5.1	7.7	1.7	9.1	1.9	5.6	1.8	9.5
1507 ts		22.8	5.8	23.3	12.5	-2.6	3.4	20.5	15.7	1.6	-5.2	11.9	10.4
1508 ts		22.4	8.4	12.0	11.5	4.1	12.0	4.3	4.0	4.2	6.3	-0.6	7.2
1509 ts		27.7	7.2	6.6	12.5	10.3	7.2	-1.8	26.6	36.3	-34.9	2.1	5.6
1510 ts		33.3	13.6	9.7	2.0	6.3	14.0	1.0	-0.2	10.0	6.2	-0.1	-2.1
1511		30.7	17.3	6.6	20.2	7.1	11.6	4.3	9.2	10.1	-3.9	2.0	14.0
1512		23.3	7.0	4.7	14.9	1.4	0.1	12.6	8.1	0.3	11.0	5.1	4.6
1513		29.7	1.6	20.8	9.2	5.2	-1.7	10.3	9.8	-2.8	-5.6	7.8	7.0
1514	nw	nw		13.7	11.0	-3.1	3.4	14.2	11.8	-1.1	-4.6	9.4	7.4
1515		26.7	10.6	10.2	1.3	7.4	11.4	2.5	-0.7	7.9	9.4	-1.0	0.1
1516		25.9	9.1	23.2	9.4	5.7	6.1	8.8	4.6	-5.6	-2.1	7.2	7.4
1517		11.1	14.7	9.3	7.3	-2.4	15.3	4.2	-0.3	5.8	11.2	2.4	5.7
1518		14.2	20.4	14.1	14.5	-0.1	18.6	8.8	2.6	3.6	10.9	4.0	3.6
1519		21.8	3.8	21.7	13.5	7.4	-0.4	16.2	2.9	4.4	-3.9	11.8	6.3
1520		18.6	5.7	17.3	13.2	3.4	-3.0	16.8	-0.6	2.8	0.9	6.7	5.7
Mean		23.1	8.6	13.1	11.6	3.4	6.2	7.8	7.6	2.5	0.7	6.1	6.4
SD		5.62	6.00	6.43	5.19	3.77	7.12	6.32	6.56	12.42	10.92	7.85	3.64
N		19	19	20	20	20	20	20	20	20	20	20	20

ts = terminal sacrifice, nw = not weighed

Females		Individual Body Weight Change from Interval to Interval (grams)											Appendix H
Animal Number	Phase Week	PRE-RND 2-1	RND-DOS 1-1	DOS 1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11
Group 2 - 5 mg Mo/kg bw/day													
2501 ts		28.2	11.1	17.2	4.3	12.3	7.2	7.8	-1.0	12.8	2.4	0.0	13.4
2502 ts		23.0	14.1	10.3	6.4	12.8	11.4	4.4	1.7	11.3	0.7	3.7	1.5
2503 ts		25.4	6.3	2.5	22.0	7.1	2.3	-5.2	21.2	7.3	-8.0	13.9	12.7
2504 ts		26.2	15.7	11.1	7.8	17.3	7.8	4.4	2.1	6.8	4.5	3.4	7.6
2505 ts		20.6	1.1	29.1	12.5	-4.8	-4.6	22.5	2.7	0.8	-6.4	15.4	5.7
2506 ts		23.5	10.0	6.1	-1.8	16.1	-1.8	4.0	8.1	9.0	-0.6	1.0	8.9
2507 ts		35.0	17.9	11.0	28.2	-4.0	15.6	-0.2	19.1	1.3	2.2	14.9	8.4
2508 ts		35.0	16.4	11.5	7.0	7.7	20.0	0.7	-3.7	16.5	3.7	9.4	0.2
2509 ts		40.2	10.6	19.1	15.1	12.8	1.6	7.7	17.3	-2.1	-1.4	5.6	1.3
2510 ts		21.4	2.1	16.0	-19.4	21.7	2.5	18.2	-0.4	-3.6	5.1	7.1	4.8
Mean		27.9	10.5	13.4	8.2	9.9	6.2	6.4	6.7	6.0	0.2	7.4	6.5
SD		6.67	5.84	7.43	13.07	8.67	7.75	8.34	9.18	6.69	4.45	5.73	4.62
N		10	10	10	10	10	10	10	10	10	10	10	10

ts = terminal sacrifice

Females		Individual Body Weight Change from Interval to Interval (grams)												Appendix H
Animal Number	Phase Week	PRE-RND 2-1	RND-DOS 1-1	DOS 1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	
Group 3 - 17 mg Mo/kg bw/day														
3501 ts		34.3	17.3	10.9	12.3	0.5	13.3	9.7	6.0	0.5	7.9	8.2	3.4	
3502 ts		37.7	23.5	21.6	10.1	0.7	17.3	5.7	6.9	6.3	2.0	2.8	11.4	
3503 ts		23.1	7.3	10.9	12.8	6.7	7.8	2.9	8.7	-0.2	2.8	1.3	4.8	
3504 ts		30.7	10.3	9.1	13.5	5.7	6.5	3.4	4.9	8.7	6.0	-5.0	-2.2	
3505 ts		13.0	8.3	-2.9	7.8	2.2	-0.3	17.4	9.9	5.8	4.1	1.0	-0.1	
3506 ts		32.4	1.5	18.6	2.0	16.7	8.3	10.2	3.1	3.2	6.5	8.2	6.4	
3507 ts		15.2	18.4	14.1	14.2	2.0	10.6	12.3	8.0	-0.1	9.8	6.8	4.7	
3508 ts		28.1	15.8	10.6	13.5	9.9	10.7	1.7	11.5	6.9	-2.0	3.0	13.2	
3509 ts		22.0	10.9	22.2	12.3	7.1	1.6	16.9	2.5	1.6	-4.3	5.4	11.3	
3510 ts		34.1	20.5	18.4	4.2	19.2	10.6	6.7	1.6	9.6	8.5	-1.7	-1.6	
Mean		27.1	13.4	13.3	10.3	7.1	8.6	8.7	6.3	4.2	4.1	3.0	5.1	
SD		8.42	6.82	7.47	4.25	6.52	5.20	5.61	3.30	3.70	4.59	4.31	5.52	
N		10	10	10	10	10	10	10	10	10	10	10	10	

ts = terminal sacrifice

Females		Individual Body Weight Change from Interval to Interval (grams)											Appendix H
Animal Number	Phase Week	PRE-RND 2-1	RND-DOS 1-1	DOS 1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11
Group 4 - 60 mg Mo/kg bw/day													
4501 ts		26.6	1.7	21.0	3.8	1.1	-4.3	15.6	5.4	-0.9	-2.1	6.6	9.5
4502 ts		28.8	8.3	17.0	4.4	7.5	10.8	8.8	-4.2	2.6	9.6	-3.2	4.5
4503 ts		28.3	10.8	7.5	9.9	-0.7	2.7	4.0	0.9	1.8	1.4	-1.0	5.8
4504 ts		31.5	16.1	8.1	-1.8	10.1	8.6	7.8	-9.7	16.6	-5.8	6.6	-9.8
4505 ts		27.3	7.6	-6.5	14.3	-0.7	8.6	1.1	3.9	5.4	1.8	-2.0	7.1
4506 ts		29.8	2.8	1.8	16.6	0.0	7.0	0.5	1.7	-2.5	-0.1	4.1	4.6
4507 ts		37.9	15.1	10.2	-6.4	13.7	-0.1	10.3	-5.9	11.6	4.0	-7.4	3.6
4508 ts		23.6	16.3	10.2	20.7	8.3	6.1	3.8	13.9	0.9	0.6	-0.2	12.5
4509 ts		19.7	5.8	8.1	7.8	6.2	-0.6	7.9	5.9	0.1	1.3	5.7	4.8
4510 ts		14.5	19.1	3.9	-7.5	4.9	11.6	-0.2	-3.6	10.0	9.9	-4.4	-4.3
4511		23.6	1.8	7.2	14.7	0.5	4.6	-0.4	14.1	6.3	-4.4	-2.2	12.4
4512		28.2	8.1	11.8	13.8	-4.6	1.0	9.3	1.6	6.1	-4.4	7.7	-0.3
4513		32.3	8.2	3.9	6.2	5.8	7.8	-2.3	-3.8	4.9	-1.6	5.8	-3.9
4514		28.8	1.0	15.1	7.6	2.4	-2.6	10.1	5.2	0.5	-2.2	3.5	2.2
4515		36.8	20.0	10.0	8.2	18.2	6.2	4.7	1.6	10.9	-0.4	10.4	4.7
4516		17.1	25.1	12.7	16.3	-4.3	14.9	4.6	3.0	0.4	8.6	4.5	3.5
4517		13.4	17.8	14.2	14.6	-9.8	12.4	1.4	0.9	-6.1	6.0	-4.0	-0.4
4518		22.8	2.9	6.0	6.6	-3.5	6.2	1.1	5.9	-0.8	0.3	-1.4	6.8
4519		14.6	6.4	10.8	2.9	4.2	-0.6	12.0	2.5	3.1	2.8	-1.5	4.5
4520		27.7	12.3	2.1	5.2	4.1	7.0	6.7	-1.5	6.6	2.4	0.6	3.1
Mean		25.7	10.4	8.8	7.9	3.2	5.4	5.3	1.9	3.9	1.4	1.4	3.5
SD		7.01	7.05	6.10	7.55	6.62	5.27	4.82	5.91	5.47	4.49	4.84	5.41
N		20	20	20	20	20	20	20	20	20	20	20	20

ts = terminal sacrifice

Females		Individual Body Weight Change from Interval to Interval (grams)										Appendix H
Animal Number	Phase Week	DOS		DOS-REC	REC							
		11-12	12-13	13-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	
Group 1 - 0 mg Mo/kg bw/day												
1501 ts		-9.5	13.5									
1502 ts		-3.6	-4.3									
1503 ts		-4.8	1.9									
1504 ts		-3.8	-5.4									
1505 ts		-0.5	0.9									
1506 ts		-3.0	-0.8									
1507 ts		-6.1	-7.3									
1508 ts		-1.1	-2.5									
1509 ts		-9.7	-8.0									
1510 ts		6.3	1.0									
1511		1.7	-3.8	6.7	23.4	-41.5	30.4	23.0	10.2	-2.9	4.8	
1512		-11.4	4.6	8.3	1.6	3.4	-1.6	13.8	9.9	2.7	1.8	
1513		-12.8	4.4	12.4	3.4	0.4	1.2	7.4	5.6	3.2	-0.3	
1514		-6.1	-0.2	8.1	13.0	0.3	-1.1	4.3	6.0	3.6	-1.6	
1515		2.0	2.9	0.2	-5.3	6.1	5.3	-0.4	4.1	6.0	-0.1	
1516		-0.7	-5.8	11.6	4.9	-2.6	0.0	14.5	11.1	5.1	-1.6	
1517		-9.2	0.3	3.7	4.4	-2.5	4.8	7.2	3.6	0.4	-0.4	
1518		-2.2	0.8	7.4	6.4	-1.7	7.4	13.0	4.5	0.3	9.5	
1519		-3.4	-4.2	9.9	7.8	0.3	2.3	7.9	8.6	2.0	-5.5	
1520		-8.7	0.1	12.1	4.0	-0.7	-2.4	7.4	2.1	-1.1	12.9	
Mean		-4.3	-0.6	8.0	6.4	-3.9	4.6	9.8	6.6	1.9	2.0	
SD		4.93	4.96	3.86	7.57	13.50	9.61	6.49	3.15	2.77	5.58	
N		20	20	10	10	10	10	10	10	10	10	

ts = terminal sacrifice



Females	Individual Body Weight Change from Interval to Interval (grams)	Appendix H
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Animal Number	Phase Week	DOS		DOS-REC		REC					
		11-12	12-13	13-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8

## Group 2 - 5 mg Mo/kg bw/day

2501 ts	0.7	0.4
2502 ts	-4.3	6.4
2503 ts	-8.1	-4.7
2504 ts	-3.5	2.6
2505 ts	-4.8	-6.0
2506 ts	-0.3	1.3
2507 ts	3.1	8.8
2508 ts	4.4	3.9
2509 ts	2.9	-3.8
2510 ts	-1.1	-1.2
Mean	-1.1	0.8
SD	4.03	4.83
N	10	10

ts = terminal sacrifice

Females	Individual Body Weight Change from Interval to Interval (grams)	Appendix H
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Animal Number	Phase Week	DOS		DOS-REC	REC						
		11-12	12-13	13-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8

## Group 3 - 17 mg Mo/kg bw/day

3501 ts	-5.7	0.4
3502 ts	1.1	-1.7
3503 ts	4.6	-0.2
3504 ts	3.3	-7.8
3505 ts	4.4	-2.6
3506 ts	-13.5	5.2
3507 ts	-5.0	4.9
3508 ts	0.8	-4.1
3509 ts	-5.6	-4.3
3510 ts	9.8	2.7
Mean	-0.6	-0.8
SD	6.81	4.20
N	10	10

ts = terminal sacrifice

Females		Individual Body Weight Change from Interval to Interval (grams)										Appendix H
Animal Number	Phase Week	DOS		DOS-REC	REC		2-3	3-4	4-5	5-6	6-7	7-8
		11-12	12-13	13-1	1-2							
Group 4 - 60 mg Mo/kg bw/day												
4501 ts		-11.7	-3.1									
4502 ts		0.4	2.3									
4503 ts		-3.5	1.0									
4504 ts		-1.1	-1.7									
4505 ts		-0.4	-1.7									
4506 ts		2.0	-5.2									
4507 ts		-3.2	-5.1									
4508 ts		-0.6	0.0									
4509 ts		-11.8	6.6									
4510 ts		7.8	-1.9									
4511		-4.4	-10.0	20.9	-2.5	24.9	18.6	7.1	1.2	0.0	12.4	
4512		-4.4	0.1	11.0	-0.9	1.8	-2.5	5.3	2.5	3.1	0.4	
4513		-1.4	-2.3	13.1	7.1	-2.5	5.6	4.2	12.4	6.9	6.2	
4514		0.7	-7.4	16.3	7.4	-4.0	0.5	8.3	9.2	-1.2	-5.7	
4515		-3.9	5.2	7.4	0.6	11.7	0.8	-0.6	7.8	25.4	-4.8	
4516		-8.8	4.3	11.0	8.5	2.0	14.0	2.6	3.0	1.2	6.5	
4517		-4.0	3.8	14.7	17.6	-2.0	12.2	7.8	8.6	-0.3	6.8	
4518		-2.3	-5.7	13.9	12.0	6.1	0.4	0.9	8.6	2.9	-1.5	
4519		3.3	-5.3	7.1	3.9	4.7	-0.4	4.7	5.6	-2.6	4.2	
4520		-2.9	-0.5	12.6	2.9	3.8	8.3	1.6	2.9	13.1	-7.8	
Mean		-2.5	-1.3	12.8	5.7	4.7	5.8	4.2	6.2	4.9	1.7	
SD		4.67	4.40	4.10	6.16	8.48	7.21	3.03	3.68	8.54	6.58	
N		20	20	10	10	10	10	10	10	10	10	

ts = terminal sacrifice

Males		Individual Food Consumption Values (grams/day)											Appendix I
Animal Number	Phase Day	RND 1-7	DOS 1-2	2-4	4-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	57-63
Group 1 - 0 mg Mo/kg bw/day													
1001 ts		27.3	26.0	28.4	29.1	29.4	30.0	29.1	29.8	27.9	27.9	27.9	26.4
1002 ts		29.8	29.8	29.0	32.1	32.8	27.4	28.2	33.0	31.3	29.2	31.2	26.8
1003 ts		29.4	28.1	30.9	29.5	28.6	29.0	23.5	30.5	29.0	28.7	28.9	27.9
1004 ts		26.3	24.4	25.8	29.8	26.2	26.9	27.0	28.1	26.7	26.7	26.2	25.2
1005 ts		29.5	29.5	30.0	29.8	29.2	31.2	30.0	31.3	31.0	30.1	29.7	29.3
1006 ts		31.2	27.9	32.1	32.7	31.9	32.8	30.3	31.6	30.9	32.1	31.7	32.9
1007 ts		25.7	24.0	25.1	25.5	25.6	27.1	26.6	25.9	25.1	24.5	25.4	23.0
1009 ts		25.9	24.2	25.6	26.8	27.5	28.8	26.7	28.5	28.8	27.4	26.8	24.9
1010 ts		33.8	27.7	28.6	32.1	29.6	31.6	30.2	31.4	32.9	32.6	33.1	29.0
1011		30.2	26.5	30.8	31.0	29.3	30.9	30.9	30.8	30.1	29.1	30.6	30.4
1012		28.6	27.8	29.3	26.4	27.2	28.0	27.4	28.5	28.7	29.1	29.3	29.2
1013		26.4	25.0	28.5	26.2	27.7	27.5	28.0	27.6	27.0	26.9	26.0	25.0
1014		27.7	28.9	28.1	28.7	27.9	29.7	30.0	28.6	29.3	29.2	29.5	29.7
1015		26.8	25.5	26.1	27.3	27.7	28.7	27.2	27.2	25.7	25.4	25.9	24.5
1016		29.6	29.2	32.0	31.0	31.0	31.3	31.2	31.5	31.1	30.8	32.0	30.3
1017		28.4	26.7	30.3	29.2	29.1	31.0	27.9	28.1	27.8	27.6	28.0	27.1
1018		26.8	26.0	29.6	28.0	28.0	28.2	28.2	27.5	27.2	27.3	28.1	27.2
1019		32.0	31.0	31.5	33.1	32.8	34.9	33.0	32.7	32.9	31.7	31.7	30.1
1020		27.5	27.4	27.7	29.1	29.2	29.1	29.5	29.9	28.4	29.0	30.0	29.0
1021 ts		26.7	25.2	27.7	27.5	29.1	28.2	28.4	29.1	28.6	27.7	27.5	26.1
Mean		28.5	27.0	28.8	29.2	29.0	29.6	28.6	29.6	29.0	28.6	29.0	27.7
SD		2.20	2.02	2.11	2.25	1.95	2.09	2.10	1.97	2.18	2.12	2.28	2.49
N		20	20	20	20	20	20	20	20	20	20	20	20

ts = terminal sacrifice

Males		Individual Food Consumption Values (grams/day)											Appendix I
Animal Number	Phase Day	RND 1-7	DOS 1-2	2-4	4-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	57-63
Group 2 - 5 mg Mo/kg bw/day													
2001 ts		30.4	28.4	30.3	30.8	31.0	30.8	29.9	29.1	28.7	27.7	27.1	28.2
2002 ts		24.7	24.9	25.4	25.8	26.5	27.3	26.1	26.6	27.4	27.1	27.8	26.7
2003 ts		28.8	27.2	27.6	30.3	28.8	29.2	29.6	30.2	30.1	28.7	28.9	28.8
2004 ts		29.7	27.2	29.4	30.9	31.4	33.6	32.6	33.2	33.2	29.4	29.0	28.4
2005 ts		30.9	30.7	32.7	34.4	34.3	32.9	30.3	30.4	30.0	30.8	29.4	31.1
2006 ts		31.1	30.1	31.4	33.0	33.1	32.9	31.0	30.9	30.8	29.6	29.7	29.5
2007 ts		30.1	29.6	28.6	29.4	27.9	28.8	28.8	29.3	28.4	28.3	28.4	28.5
2008 ts		28.1	25.7	28.8	30.7	29.6	30.3	31.2	31.9	30.5	30.7	30.3	29.3
2009 ts		30.1	29.1	30.9	31.8	32.5	32.8	32.2	33.4	32.1	32.4	32.5	31.5
2010 ts		32.9	24.4	25.6	40.8	31.4	31.6	32.8	35.1	37.1	36.4	33.1	35.0
Mean		29.7	27.7	29.1	31.8	30.7	31.0	30.4	31.0	30.8	30.1	29.6	29.7
SD		2.19	2.21	2.36	3.88	2.44	2.09	2.02	2.49	2.78	2.72	1.92	2.32
N		10	10	10	10	10	10	10	10	10	10	10	10

ts = terminal sacrifice

Males		Individual Food Consumption Values (grams/day)											Appendix I
Animal Number	Phase Day	RND 1-7	DOS 1-2	2-4	4-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	57-63
Group 3 - 17 mg Mo/kg bw/day													
3001 ts		28.0	26.5	28.3	28.8	28.2	29.1	27.7	27.6	27.7	28.2	27.4	26.4
3002 ts		24.3	21.9	24.2	24.6	24.1	24.3	24.6	25.1	25.1	24.4	25.1	24.6
3003 ts		29.4	23.8	29.8	32.6	31.3	32.2	29.5	31.6	29.6	28.6	28.5	28.1
3005 ts		25.0	20.6	24.3	28.4	26.1	27.5	22.9	28.0	27.0	27.1	25.9	26.1
3006 ts		27.0	25.9	27.2	27.9	26.8	28.8	26.4	28.0	27.7	27.3	27.7	27.1
3007 ts		25.8	26.9	27.5	27.7	26.5	26.3	25.2	26.7	27.7	25.7	26.7	25.9
3008 ts		31.0	31.6	31.3	30.7	29.4	30.7	30.1	29.7	28.7	29.6	29.7	31.4
3009 ts		28.4	26.7	29.0	28.8	28.3	28.2	29.2	27.7	26.5	26.1	26.5	26.1
3010 ts		30.0	29.4	29.9	31.0	31.5	33.4	32.3	33.4	32.6	31.4	30.8	31.0
3011 ts		38.0	28.1	26.8	27.9	28.7	29.8	27.9	28.8	28.8	28.6	28.5	27.2
Mean		28.7	26.1	27.8	28.8	28.1	29.0	27.6	28.7	28.1	27.7	27.7	27.4
SD		3.93	3.33	2.31	2.20	2.31	2.69	2.85	2.40	2.01	2.03	1.76	2.21
N		10	10	10	10	10	10	10	10	10	10	10	10

ts = terminal sacrifice

Males		Individual Food Consumption Values (grams/day)											Appendix I
Animal Number	Phase Day	RND 1-7	DOS 1-2	2-4	4-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	57-63
Group 4 - 60 mg Mo/kg bw/day													
4001	ts	27.6	28.3	26.8	27.0	26.7	26.5	25.1	26.6	24.8	25.4	27.8	26.1
4002	ts	26.0	24.9	25.0	24.6	24.2	24.6	26.0	25.1	24.6	23.1	23.7	23.6
4003	ts	30.9	27.8	29.2	32.6	34.3	33.6	31.3	34.5	37.0	36.5	36.9	35.5
4004	ts	28.0	25.0	26.4	27.4	26.9	26.8	25.8	26.8	27.1	26.5	27.8	25.9
4005	ts	28.0	25.3	27.4	28.9	28.6	29.2	27.7	28.0	28.0	27.8	28.7	28.4
4006	ts	28.1	25.5	28.3	30.3	28.6	27.5	28.3	28.9	27.2	27.0	28.3	28.2
4007	ts	25.0	21.5	26.5	25.9	25.6	25.7	24.0	24.5	25.3	25.8	25.5	26.3
4009	ts	27.6	25.9	28.6	26.4	26.1	26.7	26.4	25.5	25.3	25.0	24.0	25.8
4010	ts	28.5	26.5	27.2	29.8	29.8	30.5	28.0	27.9	26.6	26.8	28.1	25.8
4011		30.2	26.0	27.5	nw	28.7	29.4	27.8	27.5	29.0	27.6	29.8	27.7
4012		27.1	26.1	28.1	nw	26.6	27.8	24.9	25.9	26.5	26.5	23.6	26.6
4013		25.6	27.7	25.8	25.0	26.1	26.1	25.8	25.1	25.1	25.3	25.4	25.2
4014		32.7	32.3	34.1	33.0	34.0	33.4	32.3	32.8	31.0	29.2	32.5	30.4
4015		27.4	26.8	26.6	26.3	25.8	25.5	25.0	25.0	7.3	18.9	29.6	20.8
4016	u1	31.1	27.3	29.0	40.7	33.1	32.3	31.9	32.4	32.3			
4017		27.1	27.8	25.8	26.8	26.1	27.0	27.1	27.0	23.4	26.2	26.3	25.5
4018		27.6	25.7	25.6	24.5	24.1	25.8	26.2	26.3	25.9	27.3	26.3	24.8
4019		31.0	25.8	26.6	26.0	25.9	25.7	25.6	25.7	25.9	25.5	25.6	26.6
4020		31.8	31.1	28.4	29.5	27.4	26.6	26.6	27.0	26.5	27.2	25.2	24.3
4021	ts	27.5	22.0	25.8	25.2	25.9	26.1	26.0	26.7	26.1	26.5	27.2	28.8
Mean		28.4	26.5	27.4	28.3	27.7	27.8	27.1	27.5	26.2	26.5	27.5	26.6
SD		2.13	2.49	1.98	4.02	2.98	2.68	2.33	2.76	5.44	3.23	3.22	2.99
N		20	20	20	18	20	20	20	20	20	19	19	19

ts = terminal sacrifice, u1 = found dead, nw = not weighed

Males		Individual Food Consumption Values (grams/day)											Appendix I
Animal Number	Phase	DOS				REC							
	Day	65-70	71-77	78-84	85-91	1-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56
Group 1 - 0 mg Mo/kg bw/day													
1001 ts		26.4	26.3	25.7	26.3								
1002 ts		29.9	30.1	28.6	29.1								
1003 ts		27.3	27.6	28.9	29.5								
1004 ts		25.8	25.6	23.5	23.8								
1005 ts		29.2	31.2	28.8	29.8								
1006 ts		32.1	31.9	31.8	32.4								
1007 ts		23.9	24.0	24.5	25.7								
1009 ts		27.1	25.9	24.8	26.4								
1010 ts		30.7	31.1	29.6	31.1								
1011		29.6	30.8	27.7	28.0	28.9	31.5	31.4	30.2	32.9	32.4	30.6	30.3
1012		28.0	28.6	25.9	28.2	23.1	27.6	27.7	26.9	28.8	29.4	26.9	27.5
1013		25.1	25.2	24.5	25.5	25.4	26.1	27.9	24.8	27.0	27.5	25.5	26.8
1014		29.8	29.3	28.7	27.5	28.9	29.0	28.8	29.3	31.5	28.4	29.4	30.2
1015		23.6	23.7	25.5	24.9	24.3	24.7	25.6	24.5	27.9	25.2	24.5	24.4
1016		30.3	30.2	30.9	30.5	28.7	31.7	31.5	29.6	32.1	32.4	31.8	30.4
1017		26.9	26.5	26.9	27.1	23.4	27.5	27.4	27.3	28.8	28.9	27.4	26.2
1018		26.5	27.5	28.1	28.6	26.5	29.6	29.1	28.2	28.3	30.8	28.3	29.4
1019		27.8	33.4	33.2	33.2	31.5	33.5	33.2	31.5	34.7	35.0	32.9	34.0
1020		29.0	28.5	29.3	29.5	27.3	29.6	29.7	29.1	29.1	29.5	27.3	26.7
1021 ts		27.7	28.1	27.7	27.7								
Mean		27.8	28.3	27.7	28.2	26.8	29.1	29.2	28.1	30.1	29.9	28.5	28.6
SD		2.25	2.71	2.59	2.47	2.75	2.69	2.27	2.28	2.51	2.79	2.69	2.79
N		20	20	20	20	10	10	10	10	10	10	10	10

ts = terminal sacrifice



Males		Individual Food Consumption Values (grams/day)											Appendix I	
Animal Number	Phase Day	DOS				REC								
		65-70	71-77	78-84	85-91	1-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	
Group 2 - 5 mg Mo/kg bw/day														
2001 ts		27.8	29.1	25.3	27.1									
2002 ts		27.4	28.1	25.6	26.1									
2003 ts		29.3	28.5	26.6	29.9									
2004 ts		27.9	29.4	22.3	25.8									
2005 ts		30.7	31.6	27.1	29.0									
2006 ts		29.5	29.2	27.0	25.8									
2007 ts		28.3	28.2	25.5	28.3									
2008 ts		30.3	30.8	28.5	29.5									
2009 ts		31.8	34.8	32.9	32.4									
2010 ts		37.3	31.8	27.5	28.7									
Mean		30.0	30.1	26.8	28.3									
SD		2.91	2.11	2.72	2.11									
N		10	10	10	10									

ts = terminal sacrifice

Males		Individual Food Consumption Values (grams/day)										Appendix I	
Animal Number	Phase	DOS				REC							
	Day	65-70	71-77	78-84	85-91	1-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56
Group 3 - 17 mg Mo/kg bw/day													
3001	ts	28.6	27.3	25.8	28.3								
3002	ts	24.8	25.8	24.5	25.4								
3003	ts	27.4	28.3	26.6	27.9								
3005	ts	25.1	24.3	23.3	26.0								
3006	ts	26.9	27.2	24.8	25.7								
3007	ts	24.8	25.2	24.1	25.4								
3008	ts	30.4	29.8	30.2	29.8								
3009	ts	26.7	25.0	25.2	26.9								
3010	ts	31.1	31.2	29.5	30.6								
3011	ts	28.6	28.3	24.2	27.0								
Mean		27.4	27.2	25.8	27.3								
SD		2.25	2.23	2.32	1.84								
N		10	10	10	10								

ts = terminal sacrifice

Males		Individual Food Consumption Values (grams/day)											Appendix I	
Animal Number	Phase Day	DOS				REC								
		65-70	71-77	78-84	85-91	1-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	
Group 4 - 60 mg Mo/kg bw/day														
4001 ts		25.7	25.8	20.8	24.3									
4002 ts		22.8	24.5	23.8	22.4									
4003 ts		32.7	35.3	32.2	33.1									
4004 ts		25.0	26.1	24.5	25.3									
4005 ts		28.1	29.1	26.6	29.2									
4006 ts		26.8	26.7	26.8	28.5									
4007 ts		26.5	25.2	24.4	24.3									
4009 ts		26.0	26.1	24.2	26.0									
4010 ts		26.4	28.3	24.9	26.7									
4011		28.5	27.8	27.5	26.7	26.3	27.5	27.3	26.7	27.8	27.5	26.3	26.6	
4012		25.4	25.7	20.7	25.2	26.0	26.4	27.1	26.7	27.3	26.8	26.0	26.4	
4013		25.6	26.0	24.9	25.1	27.7	30.0	29.1	28.6	28.3	28.8	27.9	27.9	
4014		31.4	31.4	28.8	30.1	28.2	29.5	28.9	27.6	29.0	29.3	27.7	27.5	
4015		25.4	24.0	22.3	24.6	26.6	28.6	25.4	25.0	25.1	25.4	24.5	25.3	
4016 u1														
4017		26.6	26.2	23.4	26.1	27.8	30.5	29.3	28.5	29.3	28.2	26.5	27.3	
4018		25.7	27.7	24.9	25.5	27.9	29.2	28.1	27.4	28.9	28.2	27.4	28.9	
4019		25.5	26.5	26.0	26.4	24.6	27.7	27.6	27.1	27.1	27.6	26.9	27.0	
4020		25.1	26.5	23.3	26.9	28.1	29.7	28.9	27.8	28.1	27.5	27.0	27.1	
4021 ts		28.4	28.6	23.7	25.6									
Mean		26.7	27.2	24.9	26.4	27.0	28.8	28.0	27.3	27.9	27.7	26.7	27.1	
SD		2.30	2.61	2.70	2.42	1.23	1.33	1.28	1.10	1.30	1.13	1.04	1.00	
N		19	19	19	19	9	9	9	9	9	9	9	9	

ts = terminal sacrifice, u1 = found dead

Females		Individual Food Consumption Values (grams/day)											Appendix I
Animal Number	Phase Day	RND 1-7	DOS 1-2	2-4	4-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	57-63
Group 1 - 0 mg Mo/kg bw/day													
1501 ts		19.4	9.2	18.1	16.5	19.6	18.5	18.8	18.6	18.0	18.0	20.3	18.8
1502 ts		17.8	19.0	15.4	16.6	17.9	18.0	16.1	15.2	16.9	17.6	16.1	16.0
1503 ts		19.8	15.8	19.5	19.2	18.6	18.4	17.6	17.7	17.6	16.8	12.6	7.9
1504 ts		20.0	14.8	18.1	20.1	19.1	19.1	17.6	18.2	18.6	18.8	18.4	17.4
1505 ts		19.2	13.2	20.5	18.7	18.9	20.6	19.0	18.9	20.8	19.3	18.5	17.5
1506 ts		20.1	11.7	19.6	18.0	17.5	18.0	16.0	17.2	17.5	17.0	16.9	16.7
1507 ts		18.1	17.0	16.3	19.5	23.7	21.9	18.3	19.4	22.2	22.8	19.7	18.5
1508 ts		17.9	12.2	18.8	17.7	17.6	18.3	17.4	17.9	17.8	17.4	18.2	17.7
1509 ts		20.9	12.1	19.9	20.8	23.0	23.3	36.9	19.4	30.0	25.0	26.3	25.4
1510 ts		20.6	23.5	21.3	21.7	20.3	19.7	18.0	20.1	18.1	17.9	19.6	19.0
1511		20.8	20.8	21.6	22.2	21.9	23.2	21.6	23.1	22.4	21.5	21.8	20.8
1512		20.6	6.8	19.9	25.9	21.4	19.2	17.4	15.8	19.2	18.0	17.2	18.6
1513		21.1	17.6	19.4	22.0	21.7	21.4	19.8	19.5	19.0	19.7	18.0	16.8
1514		19.3	15.5	16.1	20.1	20.2	19.6	17.3	18.0	20.6	21.8	20.2	19.5
1515		20.3	14.8	17.9	16.6	18.4	21.0	16.7	15.7	15.5	15.2	16.2	16.4
1516		17.3	17.1	20.5	20.1	20.8	19.7	18.3	18.7	18.8	17.5	16.5	16.7
1517		16.3	17.0	14.3	18.2	17.6	16.8	15.8	17.5	17.7	16.4	16.8	18.2
1518		19.8	16.3	16.9	20.2	18.6	18.5	17.4	18.8	19.2	17.5	18.5	19.1
1519		18.2	15.8	16.5	17.9	19.3	18.8	18.1	17.8	18.4	18.1	16.7	17.1
1520		18.6	20.7	16.8	19.1	22.0	23.3	18.8	19.0	21.2	21.1	18.8	19.1
Mean		19.3	15.5	18.4	19.6	19.9	19.9	18.8	18.3	19.5	18.8	18.4	17.9
SD		1.36	3.99	2.06	2.27	1.87	1.92	4.45	1.72	3.03	2.43	2.74	3.12
N		20	20	20	20	20	20	20	20	20	20	20	20

ts = terminal sacrifice

Females		Individual Food Consumption Values (grams/day)											Appendix I
Animal Number	Phase Day	RND 1-7	DOS 1-2	2-4	4-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	57-63
Group 2 - 5 mg Mo/kg bw/day													
2501 ts		19.4	19.1	19.9	19.8	20.3	20.0	19.4	20.5	19.3	18.9	19.4	21.6
2502 ts		17.7	16.5	18.6	18.0	19.1	18.1	18.6	20.1	19.0	18.2	18.7	18.9
2503 ts		21.7	12.3	21.8	20.9	21.7	26.4	27.8	23.9	23.8	23.7	24.3	23.9
2504 ts		18.3	19.0	19.8	18.8	18.7	18.6	19.5	18.8	19.1	17.7	19.1	19.0
2505 ts		22.9	19.0	18.6	34.1	25.9	29.8	25.8	20.0	21.9	22.9	17.7	18.6
2506 ts		21.3	17.5	20.2	21.0	18.6	23.8	18.0	17.7	16.3	17.6	19.2	17.3
2507 ts		21.4	21.7	23.3	21.9	21.6	22.8	21.1	22.1	22.5	21.7	21.2	21.8
2508 ts		22.6	22.2	22.7	21.9	20.9	21.8	20.8	22.6	20.3	19.2	21.3	21.1
2509 ts		22.1	16.5	21.2	22.2	23.4	22.1	22.2	21.3	20.8	21.0	19.6	20.7
2510 ts		19.7	16.6	18.3	18.5	19.1	12.7	19.8	18.1	19.3	17.8	19.0	18.6
Mean		20.7	18.0	20.4	21.7	20.9	21.6	21.3	20.5	20.2	19.9	19.9	20.1
SD		1.82	2.86	1.76	4.59	2.34	4.72	3.18	1.99	2.15	2.29	1.87	2.00
N		10	10	10	10	10	10	10	10	10	10	10	10

ts = terminal sacrifice

Females		Individual Food Consumption Values (grams/day)											Appendix I
Animal Number	Phase Day	RND 1-7	DOS 1-2	2-4	4-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	57-63
Group 3 - 17 mg Mo/kg bw/day													
3501 ts		22.0	22.8	20.6	23.1	21.9	21.4	20.4	22.3	22.3	21.0	20.8	22.2
3502 ts		23.2	22.6	22.2	37.5	24.3	27.0	21.5	25.6	22.7	22.1	21.1	21.5
3503 ts		17.6	16.2	17.6	17.4	18.0	18.6	17.8	19.2	17.6	17.5	17.0	17.7
3504 ts		22.6	15.0	21.5	20.9	19.9	20.6	19.3	21.0	19.6	17.0	19.4	19.6
3505 ts		15.2	8.6	17.7	14.9	14.3	14.7	14.1	14.3	16.7	15.4	16.7	17.4
3506 ts		20.7	12.4	20.3	18.9	19.4	27.1	21.3	19.4	19.9	18.2	17.9	20.4
3507 ts		20.6	18.3	19.9	23.7	22.1	22.2	21.5	23.3	22.2	20.6	21.0	22.0
3508 ts		24.7	18.5	24.3	25.8	23.5	25.0	26.6	25.1	24.3	26.3	23.7	21.3
3509 ts		19.4	20.8	19.8	20.5	20.9	21.2	19.2	19.8	20.5	18.7	18.3	17.5
3510 ts		32.4	23.5	28.8	24.0	36.6	25.2	28.1	26.2	25.9	22.9	23.1	22.8
Mean		21.8	17.9	21.3	22.7	22.1	22.3	21.0	21.6	21.2	20.0	19.9	20.3
SD		4.64	4.88	3.32	6.18	5.84	3.92	4.03	3.65	2.86	3.24	2.45	2.08
N		10	10	10	10	10	10	10	10	10	10	10	10

ts = terminal sacrifice

Females		Individual Food Consumption Values (grams/day)											Appendix I
Animal Number	Phase Day	RND 1-7	DOS 1-2	2-4	4-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	57-63
Group 4 - 60 mg Mo/kg bw/day													
4501 ts		17.9	16.3	17.3	17.7	19.6	18.0	15.4	15.9	17.7	17.0	16.4	16.8
4502 ts		20.8	15.6	21.6	19.0	20.2	20.7	18.9	15.4	20.2	18.9	19.4	20.6
4503 ts		21.8	17.7	15.4	21.2	17.5	17.8	21.2	17.3	16.5	15.6	16.0	15.7
4504 ts		20.3	22.7	21.0	20.7	19.8	18.2	17.8	19.2	18.6	17.2	18.6	19.0
4505 ts		20.9	15.3	19.8	19.9	16.2	18.4	17.2	18.5	17.6	16.5	18.1	17.7
4506 ts		25.4	39.2	21.3	33.4	21.5	36.5	24.8	21.4	22.5	22.9	24.1	18.5
4507 ts		22.0	24.5	21.6	19.7	20.1	19.5	18.1	19.5	19.2	18.6	18.7	19.1
4508 ts		23.6	18.0	23.4	23.6	35.6	29.0	28.7	34.1	36.3	29.5	29.7	27.2
4509 ts		18.3	13.6	16.6	17.4	17.4	17.3	16.0	16.3	16.6	17.4	16.2	16.6
4510 ts		17.9	11.1	21.8	18.6	18.0	15.5	15.5	16.5	15.5	16.1	17.2	18.0
4511		19.2	11.5	18.4	17.3	21.0	20.3	18.8	17.0	18.0	17.2	18.0	16.7
4512		20.4	19.9	20.5	21.4	21.7	23.4	20.4	21.2	20.3	19.2	18.2	18.0
4513		21.0	22.3	21.4	20.5	19.1	19.3	19.2	20.4	19.5	17.8	19.9	18.6
4514		22.7	18.4	18.2	30.4	23.1	21.8	13.4	21.4	25.3	18.1	19.7	20.0
4515		23.6	21.8	24.9	23.9	22.0	21.8	22.5	21.5	19.4	18.4	18.0	17.6
4516		19.6	18.2	17.6	21.2	19.9	22.1	22.7	26.9	20.5	16.8	18.6	19.6
4517		22.1	22.6	16.6	25.0	33.5	23.5	25.3	25.8	25.6	19.5	21.1	21.8
4518		19.1	14.3	19.1	17.0	17.1	18.1	13.8	16.7	16.0	16.3	15.8	15.4
4519		17.0	16.6	16.7	18.8	18.7	17.9	12.8	17.8	18.2	17.2	17.8	17.2
4520		18.1	18.7	19.0	18.0	16.6	16.5	16.2	18.6	16.6	15.5	16.4	17.3
Mean		20.6	18.9	19.6	21.3	20.9	20.8	18.9	20.1	20.0	18.3	18.9	18.6
SD		2.25	6.05	2.53	4.30	5.04	4.80	4.25	4.53	4.72	3.13	3.21	2.58
N		20	20	20	20	20	20	20	20	20	20	20	20

ts = terminal sacrifice

Females		Individual Food Consumption Values (grams/day)											Appendix I
Animal Number	Phase Day	DOS				REC							
		65-70	71-77	78-84	85-91	1-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56
Group 1 - 0 mg Mo/kg bw/day													
1501	ts	19.2	20.0	17.4	19.4								
1502	ts	17.4	17.9	16.4	16.8								
1503	ts	26.5	20.6	16.8	17.5								
1504	ts	18.7	19.4	17.6	17.9								
1505	ts	22.3	20.3	19.4	18.0								
1506	ts	17.8	18.1	16.5	17.0								
1507	ts	24.7	21.2	20.6	19.1								
1508	ts	17.4	18.8	17.8	17.7								
1509	ts	22.7	25.0	nw	22.5								
1510	ts	19.8	18.7	18.2	19.3								
1511		21.4	22.2	22.8	20.9	20.2	28.9	15.9	25.1	26.7	23.8	20.5	23.9
1512		19.1	17.8	16.2	18.5	18.4	20.9	20.8	19.1	21.2	21.5	19.1	19.5
1513		18.7	19.6	16.6	21.0	20.9	21.7	20.3	20.7	22.1	21.5	19.7	19.0
1514		20.9	20.6	18.7	19.9	20.1	24.5	22.8	22.0	22.1	22.2	18.7	19.6
1515		16.4	15.5	16.6	16.9	16.9	20.9	18.7	21.7	18.4	21.3	22.6	21.8
1516		17.9	18.7	16.9	17.9	18.6	19.4	20.1	20.2	21.7	21.5	20.1	19.3
1517		18.5	16.7	15.8	17.3	16.2	17.5	17.5	18.2	19.5	17.6	17.8	17.3
1518		18.5	18.1	17.0	18.7	18.2	19.6	19.1	20.4	22.0	20.1	20.0	20.5
1519		17.9	18.5	16.7	17.4	18.3	19.8	18.9	19.3	20.5	19.9	17.7	18.1
1520		23.4	22.0	18.8	19.9	21.6	22.6	21.3	21.1	23.8	20.9	21.2	23.2
Mean		20.0	19.5	17.7	18.7	18.9	21.6	19.5	20.8	21.8	21.0	19.7	20.2
SD		2.71	2.12	1.74	1.57	1.73	3.20	1.96	1.93	2.28	1.61	1.51	2.14
N		20	20	19	20	10	10	10	10	10	10	10	10

ts = terminal sacrifice, nw = not weighed



Females		Individual Food Consumption Values (grams/day)										Appendix I	
Animal Number	Phase Day	DOS				REC							
		65-70	71-77	78-84	85-91	1-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56
Group 2 - 5 mg Mo/kg bw/day													
2501 ts		20.0	22.5	20.0	21.4								
2502 ts		19.2	19.0	16.9	18.3								
2503 ts		32.1	29.5	23.8	24.0								
2504 ts		22.6	21.4	20.0	22.5								
2505 ts		22.2	20.3	16.1	16.3								
2506 ts		18.3	17.8	16.0	17.0								
2507 ts		22.9	23.9	22.0	25.7								
2508 ts		22.3	22.2	21.0	21.2								
2509 ts		20.8	21.3	20.1	19.5								
2510 ts		19.5	20.1	19.0	20.0								
Mean		22.0	21.8	19.5	20.6								
SD		3.91	3.22	2.57	3.00								
N		10	10	10	10								

ts = terminal sacrifice

Females		Individual Food Consumption Values (grams/day)										Appendix I	
Animal Number	Phase	DOS				REC							
	Day	65-70	71-77	78-84	85-91	1-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56
Group 3 - 17 mg Mo/kg bw/day													
3501	ts	22.4	21.2	20.2	21.6								
3502	ts	21.8	22.8	20.6	21.6								
3503	ts	18.3	19.4	17.3	18.6								
3504	ts	17.5	16.2	15.9	16.1								
3505	ts	19.9	16.3	16.7	16.1								
3506	ts	20.8	19.6	19.2	19.4								
3507	ts	22.7	20.7	19.7	22.4								
3508	ts	23.6	22.2	26.5	22.4								
3509	ts	18.6	20.0	16.5	18.5								
3510	ts	21.0	20.0	20.3	21.9								
Mean		20.7	19.8	19.3	19.8								
SD		2.04	2.19	3.08	2.46								
N		10	10	10	10								

ts = terminal sacrifice

Females		Individual Food Consumption Values (grams/day)											Appendix I
Animal Number	Phase Day	DOS				REC							
		65-70	71-77	78-84	85-91	1-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56
Group 4 - 60 mg Mo/kg bw/day													
4501	ts	16.6	18.9	15.3	23.6								
4502	ts	20.9	20.3	19.0	22.2								
4503	ts	16.3	16.2	15.5	16.2								
4504	ts	18.4	16.6	15.4	16.7								
4505	ts	17.1	18.0	17.0	17.8								
4506	ts	21.1	30.3	23.5	nw								
4507	ts	17.2	18.8	16.4	17.6								
4508	ts	24.0	37.9	nw	nw								
4509	ts	17.5	18.0	15.7	17.9								
4510	ts	17.1	16.4	16.1	16.7								
4511		17.3	17.4	15.3	13.3	19.6	19.6	25.3	24.6	22.2	20.4	16.1	20.9
4512		18.6	17.7	15.8	18.8	18.2	19.3	19.8	17.1	17.9	17.6	17.5	17.4
4513		20.2	19.2	19.0	20.4	21.2	21.3	20.6	20.6	22.0	24.4	23.6	21.9
4514		18.8	18.7	18.9	17.4	19.1	20.1	19.4	23.6	19.2	18.5	17.9	17.6
4515		21.4	20.5	17.9	19.4	19.0	20.3	20.2	19.6	18.1	18.3	21.2	19.6
4516		19.7	17.9	16.9	19.0	18.1	19.7	20.6	21.9	19.2	17.6	18.1	18.9
4517		22.5	19.4	16.8	20.6	20.8	23.9	22.1	26.0	23.6	23.1	21.2	21.4
4518		15.9	17.3	16.2	15.2	18.1	19.4	18.8	18.1	18.5	19.1	17.6	16.8
4519		16.7	18.0	16.7	17.4	17.5	18.6	18.7	19.0	18.7	18.6	16.6	17.6
4520		16.9	17.0	16.9	17.3	17.6	19.5	18.7	18.9	17.8	17.9	18.3	16.5
Mean		18.7	19.7	17.1	18.2	18.9	20.2	20.4	20.9	19.7	19.5	18.8	18.9
SD		2.29	5.19	1.98	2.46	1.29	1.49	2.03	2.98	2.09	2.37	2.39	1.98
N		20	20	19	18	10	10	10	10	10	10	10	10

ts = terminal sacrifice, nw = not weighed

Males		Individual Test Substance Intake Values (mg Mo/kg bw/day)											Appendix J
Animal Number	Phase Day	DOS 1-2	2-4	4-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	57-63	65-70
Group 2 - 5 mg Mo/kg bw/day													
2001 ts		4.7	5.0	4.6	4.5	4.3	4.2	4.0	4.2	4.0	4.1	4.2	4.2
2002 ts		4.7	4.8	4.3	4.3	4.3	4.1	4.0	4.3	4.2	4.5	4.2	4.4
2003 ts		5.0	5.1	5.0	4.7	4.6	4.6	4.5	4.7	4.4	4.6	4.5	4.6
2004 ts		4.5	4.8	4.5	4.4	4.6	4.4	4.4	4.6	4.1	4.2	4.0	4.1
2005 ts		5.3	5.6	5.2	4.9	4.7	4.3	4.1	4.2	4.2	4.3	4.4	4.5
2006 ts		5.1	5.4	5.0	4.8	4.7	4.4	4.2	4.4	4.2	4.5	4.4	4.5
2007 ts		5.2	5.0	4.7	4.4	4.4	4.4	4.3	4.4	4.3	4.5	4.5	4.5
2008 ts		4.6	5.2	4.9	4.6	4.5	4.6	4.4	4.5	4.3	4.5	4.2	4.4
2009 ts		5.0	5.3	4.8	4.6	4.5	4.3	4.2	4.3	4.2	4.4	4.2	4.3
2010 ts		4.6	4.8	7.0	5.2	5.3	5.5	5.5	6.1	5.9	5.7	5.9	6.4
Mean		4.9	5.1	5.0	4.6	4.6	4.5	4.3	4.6	4.4	4.5	4.5	4.6
SD		0.29	0.27	0.75	0.29	0.27	0.38	0.43	0.56	0.54	0.44	0.52	0.66
N		10	10	10	10	10	10	10	10	10	10	10	10

ts = terminal sacrifice

Males		Individual Test Substance Intake Values (mg Mo/kg bw/day)											Appendix J
Animal Number	Phase Day	DOS 1-2	2-4	4-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	57-63	65-70
Group 3 - 17 mg Mo/kg bw/day													
3001 ts		16.2	17.2	16.0	15.0	15.1	14.4	14.0	14.7	14.6	15.7	14.9	16.3
3002 ts		14.7	16.3	15.2	14.3	14.1	14.3	13.8	14.4	13.5	15.2	14.4	14.6
3003 ts		14.7	18.3	17.9	16.3	16.3	15.0	15.3	15.1	14.2	15.7	15.1	15.0
3005 ts		13.5	15.9	17.4	15.1	15.6	13.3	15.4	15.4	14.8	15.5	15.4	15.1
3006 ts		16.5	17.3	15.9	14.8	15.3	14.0	14.3	14.8	14.1	15.7	15.0	15.0
3007 ts		17.4	17.8	16.2	15.0	14.7	14.2	14.5	15.6	14.2	16.1	15.3	15.0
3008 ts		18.0	17.8	16.0	14.8	14.9	14.5	13.8	14.0	14.0	15.4	15.7	15.4
3009 ts		16.2	17.6	15.8	14.7	14.1	14.6	13.3	13.3	12.7	14.1	13.6	14.2
3010 ts		17.2	17.4	16.2	15.6	15.9	15.0	14.7	15.0	13.9	15.0	14.9	15.1
3011 ts		17.0	16.3	15.3	14.7	14.6	13.6	13.4	14.0	13.3	14.6	13.7	14.4
Mean		16.1	17.2	16.2	15.0	15.1	14.3	14.2	14.6	13.9	15.3	14.8	15.0
SD		1.43	0.78	0.84	0.56	0.73	0.54	0.72	0.72	0.60	0.60	0.70	0.59
N		10	10	10	10	10	10	10	10	10	10	10	10

ts = terminal sacrifice

Males		Individual Test Substance Intake Values (mg Mo/kg bw/day)											Appendix J
Animal Number	Phase Day	DOS 1-2	2-4	4-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	57-63	65-70
Group 4 - 60 mg Mo/kg bw/day													
4001	ts	61.6	58.5	54.5	53.9	51.4	50.0	51.3	49.2	49.5	59.3	54.7	54.0
4002	ts	57.1	57.3	53.7	52.7	51.9	56.8	53.9	54.9	50.3	57.3	56.4	54.3
4003	ts	58.1	61.1	62.2	63.9	60.8	58.1	60.8	68.1	64.4	70.6	67.4	62.6
4004	ts	55.1	58.1	55.8	53.9	50.7	50.8	50.4	52.2	49.9	56.2	51.5	50.2
4005	ts	56.6	61.2	59.6	57.7	56.8	55.3	53.8	55.6	53.3	59.7	58.1	57.3
4006	ts	56.0	62.0	61.2	56.6	51.6	54.3	53.1	51.6	49.7	56.4	55.2	53.1
4007	ts	50.0	61.8	55.6	53.9	52.2	51.0	49.6	52.5	51.7	55.7	56.0	56.6
4009	ts	58.7	64.8	55.5	55.0	52.7	52.9	50.2	52.0	49.1	52.0	54.9	54.9
4010	ts	57.9	59.4	59.3	57.2	56.8	53.7	51.0	50.5	49.0	54.9	50.6	51.3
4011		57.3	60.5	nw	58.1	57.8	52.4	55.3	60.6	55.6	65.5	60.5	61.7
4012		58.1	62.6	nw	52.3	52.3	49.1	48.9	51.7	50.3	49.0	55.2	52.5
4013		62.7	58.3	51.9	53.4	51.0	52.3	49.6	52.1	50.8	55.3	54.6	56.1
4014		65.4	69.0	60.4	61.0	58.1	57.2	56.1	55.4	50.9	61.4	56.5	58.1
4015		59.2	58.8	53.8	53.1	50.4	51.8	50.1	19.0	44.6	72.5	50.2	59.8
4016	u1	54.9	58.4	74.3	58.8	54.6	54.2	53.4	54.6				
4017		63.6	59.1	56.8	56.5	55.0	55.6	52.9	48.6	52.2	57.3	54.8	56.3
4018		55.7	55.5	50.0	50.8	49.7	50.7	49.7	50.0	50.5	53.3	49.8	51.5
4019		59.7	61.5	55.2	54.5	51.8	52.1	51.1	52.7	50.1	55.0	56.0	53.8
4020		62.5	57.1	55.6	53.6	51.0	52.7	52.0	52.4	52.7	54.0	51.7	55.0
4021	ts	46.9	55.1	50.4	51.6	49.1	50.0	49.4	50.5	49.6	55.3	56.5	56.3
Mean		57.9	60.0	57.0	55.4	53.3	53.0	52.1	51.7	51.3	57.9	55.3	55.5
SD		4.37	3.23	5.55	3.30	3.23	2.55	2.90	8.85	3.84	5.98	4.04	3.36
N		20	20	18	20	20	20	20	20	19	19	19	19

ts = terminal sacrifice, u1 = found dead, nw = food not weighed

Males	Individual Test Substance Intake Values (mg Mo/kg bw/day)				Appendix J
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Animal Number	Phase	DOS			
	Day	71-77	78-84	85-91	1-91 <sup>a</sup>

## Group 2 - 5 mg Mo/kg bw/day

2001 ts	4.3	3.9	4.1	4.3
2002 ts	4.4	4.1	4.1	4.3
2003 ts	4.4	4.1	4.5	4.6
2004 ts	4.2	3.3	3.8	4.3
2005 ts	4.5	3.9	4.2	4.6
2006 ts	4.3	4.1	3.9	4.5
2007 ts	4.4	4.1	4.4	4.5
2008 ts	4.4	4.0	4.2	4.5
2009 ts	4.5	4.2	4.2	4.5
2010 ts	5.4	4.6	4.8	5.5
Mean	4.5	4.0	4.2	4.5
SD	0.33	0.31	0.28	0.35
N	10	10	10	10

ts = terminal sacrifice

<sup>a</sup>Represents the average test substance intake during the treatment period.

Males	Individual Test Substance Intake Values (mg Mo/kg bw/day)	Appendix J
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Animal Number	Phase	DOS			
	Day	71-77	78-84	85-91	1-91 <sup>a</sup>

## Group 3 - 17 mg Mo/kg bw/day

3001 ts	15.3	15.1	16.5	15.4
3002 ts	14.8	14.8	15.2	14.6
3003 ts	15.1	14.8	15.3	15.6
3005 ts	14.5	14.6	16.2	15.2
3006 ts	14.8	14.2	14.8	15.1
3007 ts	14.9	15.1	15.8	15.4
3008 ts	14.8	15.4	15.2	15.3
3009 ts	13.1	13.8	14.6	14.4
3010 ts	14.8	14.7	15.1	15.4
3011 ts	14.0	12.7	14.0	14.4
Mean	14.6	14.5	15.3	15.1
SD	0.64	0.79	0.76	0.45
N	10	10	10	10

ts = terminal sacrifice

<sup>a</sup>Represents the average test substance intake during the treatment period.



Males		Individual Test Substance Intake Values (mg Mo/kg bw/day)				Appendix J
Animal Number	Phase	DOS				
	Day	71-77	78-84	85-91	1-91 <sup>a</sup>	
Group 4 - 60 mg Mo/kg bw/day						
4001	ts	53.3	43.2	50.1	53.0	
4002	ts	56.4	54.7	52.3	54.7	
4003	ts	66.9	62.2	63.6	63.4	
4004	ts	51.1	47.6	49.2	52.2	
4005	ts	57.9	52.4	56.7	56.8	
4006	ts	51.9	52.1	54.4	54.6	
4007	ts	52.5	50.9	50.6	53.4	
4009	ts	53.8	49.3	52.9	53.9	
4010	ts	53.7	47.3	50.8	53.6	
4011		59.8	58.5	57.0	58.6	
4012		52.4	42.5	51.6	52.0	
4013		55.2	52.5	53.8	54.0	
4014		57.5	52.3	54.0	58.2	
4015		55.4	51.8	56.6	52.5	
4016	u1				57.9	
4017		55.2	49.0	54.1	55.1	
4018		54.1	48.1	49.4	51.3	
4019		54.6	52.8	53.3	54.3	
4020		57.2	50.8	58.1	54.4	
4021	ts	54.7	46.0	50.1	51.4	
Mean		55.4	50.7	53.6	54.8	
SD		3.55	4.74	3.62	2.96	
N		19	19	19	20	

ts = terminal sacrifice, u1 = found dead

<sup>a</sup>Represents the average test substance intake during the treatment period.

Females		Individual Test Substance Intake Values (mg Mo/kg bw/day)											Appendix J
Animal Number	Phase Day	DOS 1-2	2-4	4-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	57-63	65-70
Group 2 - 5 mg Mo/kg bw/day													
2501 ts		4.7	4.9	4.7	4.7	4.9	4.7	4.8	4.9	4.8	5.1	5.7	4.7
2502 ts		4.7	5.3	4.8	5.1	5.0	5.1	5.2	5.4	5.1	5.5	5.5	4.7
2503 ts		3.2	5.6	5.3	5.7	6.7	7.2	6.1	6.8	6.3	6.8	6.9	3.2
2504 ts		5.0	5.2	4.6	4.6	4.7	4.8	4.5	5.0	4.6	5.3	5.2	5.0
2505 ts		5.2	5.1	9.3	6.6	7.7	7.0	5.5	6.1	6.3	5.3	5.7	5.2
2506 ts		4.5	5.2	5.1	4.7	6.4	4.7	4.7	4.6	4.9	5.6	5.1	4.5
2507 ts		5.2	5.5	4.9	4.9	4.9	4.8	4.8	5.4	4.9	5.2	5.3	5.2
2508 ts		5.4	5.6	5.0	4.9	5.2	5.0	5.1	5.0	4.8	5.5	5.4	5.4
2509 ts		4.1	5.2	5.2	5.4	5.1	5.1	4.9	5.1	4.9	5.0	5.3	4.1
2510 ts		4.6	5.0	5.1	5.1	3.9	5.8	5.2	5.7	5.3	6.2	6.0	4.6
Mean		4.7	5.3	5.4	5.2	5.5	5.4	5.1	5.4	5.2	5.6	5.6	6.2
SD		0.66	0.24	1.40	0.60	1.11	0.93	0.46	0.65	0.62	0.57	0.54	1.14
N		10	10	10	10	10	10	10	10	10	10	10	10

ts = terminal sacrifice

Females		Individual Test Substance Intake Values (mg Mo/kg bw/day)											Appendix J
Animal Number	Phase Day	DOS 1-2	2-4	4-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	57-63	65-70
Group 3 - 17 mg Mo/kg bw/day													
3501 ts		19.6	17.7	18.5	17.7	17.5	17.4	18.1	19.1	17.7	19.7	20.5	20.9
3502 ts		19.4	19.0	29.4	18.4	20.9	17.4	19.5	18.6	17.7	18.7	18.9	19.7
3503 ts		15.2	16.5	15.8	16.4	17.0	16.6	17.4	17.2	16.5	18.1	18.7	19.9
3504 ts		13.0	18.6	17.3	16.7	17.3	16.7	17.7	17.8	15.2	18.9	18.7	17.7
3505 ts		9.5	19.6	15.8	16.1	16.9	16.7	17.0	20.0	17.6	20.9	21.4	25.3
3506 ts		11.4	18.5	17.2	17.1	25.1	19.3	17.0	18.4	16.7	18.2	20.3	20.9
3507 ts		16.2	17.6	19.5	18.1	18.2	18.3	19.1	19.1	17.2	19.8	20.1	21.1
3508 ts		15.9	20.9	20.8	19.0	20.4	21.9	20.0	21.0	21.9	21.7	19.7	22.3
3509 ts		19.3	18.4	18.2	17.7	18.1	16.7	17.1	18.2	16.5	18.1	17.6	19.0
3510 ts		20.3	24.9	19.1	28.5	20.5	22.3	20.1	21.3	18.7	20.6	19.8	19.0
Mean		16.0	19.2	19.2	18.6	19.2	18.3	18.3	19.1	17.6	19.5	19.6	20.6
SD		3.77	2.33	3.91	3.61	2.59	2.18	1.25	1.32	1.78	1.29	1.12	2.13
N		10	10	10	10	10	10	10	10	10	10	10	10

ts = terminal sacrifice

Females		Individual Test Substance Intake Values (mg Mo/kg bw/day)											Appendix J
Animal Number	Phase Day	DOS 1-2	2-4	4-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	57-63	65-70
Group 4 - 60 mg Mo/kg bw/day													
4501 ts		53.0	56.4	57.2	61.7	57.3	51.5	54.2	60.7	57.0	61.1	63.1	61.8
4502 ts		47.5	65.6	56.0	59.2	61.2	57.8	45.3	61.6	58.4	65.8	67.6	70.2
4503 ts		57.4	49.8	65.7	55.7	56.1	71.0	57.2	57.6	54.2	61.2	59.5	63.0
4504 ts		75.0	69.4	63.8	62.8	59.8	59.4	61.9	62.5	59.7	67.3	70.2	67.4
4505 ts		47.7	61.8	60.2	53.4	58.7	58.4	60.8	61.5	56.8	67.4	65.8	64.7
4506 ts		121.5	66.0	102.2	69.4	113.3	81.5	68.5	76.8	77.8	91.2	70.0	80.0
4507 ts		68.3	60.0	52.0	54.4	55.3	52.0	56.1	56.8	56.1	60.2	60.5	56.9
4508 ts		58.2	75.6	71.3	109.6	84.9	86.3	100.3	112.7	87.5	97.2	88.6	79.5
4509 ts		44.0	53.7	54.8	56.5	55.9	53.4	54.5	57.6	59.0	60.7	61.9	64.8
4510 ts		40.6	79.8	62.1	62.7	57.4	59.6	60.1	60.4	63.9	72.2	72.8	71.5
4511		36.0	57.5	53.8	67.2	63.2	61.6	54.9	61.9	56.2	63.8	60.0	63.8
4512		61.5	63.2	63.9	65.8	69.1	65.0	67.3	66.6	62.5	64.4	64.4	65.7
4513		69.6	66.6	61.9	60.2	61.2	62.7	65.0	67.0	61.9	75.1	70.8	76.3
4514		61.2	60.4	100.7	76.0	71.5	46.0	74.5	90.2	63.2	76.0	77.8	73.3
4515		65.5	74.8	66.4	62.4	61.8	63.5	59.4	56.6	53.4	55.6	54.6	65.1
4516		57.7	55.7	60.7	57.8	62.0	68.4	77.1	61.7	50.3	61.5	63.0	63.2
4517		71.8	52.6	73.9	99.4	67.9	80.2	78.3	82.4	62.7	76.7	77.5	82.4
4518		45.9	61.3	54.0	56.3	59.3	48.7	57.4	58.6	58.1	62.8	61.1	64.3
4519		56.8	57.1	62.5	63.1	61.2	45.5	63.3	66.1	61.6	70.0	66.7	66.1
4520		61.5	62.5	56.1	54.7	54.6	55.9	62.1	57.9	54.3	62.0	64.9	64.2
Mean		60.0	62.5	65.0	65.4	64.6	61.4	63.9	66.9	60.7	68.6	67.0	68.2
SD		17.96	7.93	13.73	14.60	13.46	11.47	11.84	13.99	8.48	10.51	7.83	6.84
N		20	20	20	20	20	20	20	20	20	20	20	20

ts = terminal sacrifice

Females	Individual Test Substance Intake Values (mg Mo/kg bw/day)	Appendix J
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Animal Number	Phase	DOS			
	Day	71-77	78-84	85-91	1-91 <sup>a</sup>

## Group 2 - 5 mg Mo/kg bw/day

2501 ts	5.9	5.3	5.6	5.1
2502 ts	5.7	5.2	5.5	5.2
2503 ts	8.1	6.8	6.9	6.5
2504 ts	5.8	5.6	6.2	5.2
2505 ts	6.0	4.9	5.0	6.2
2506 ts	5.2	4.8	5.0	5.1
2507 ts	5.6	5.2	5.9	5.2
2508 ts	5.7	5.4	5.4	5.3
2509 ts	5.6	5.2	5.1	5.1
2510 ts	6.4	6.1	6.5	5.6
Mean	6.0	5.4	5.7	5.4
SD	0.80	0.61	0.65	0.50
N	10	10	10	10

ts = terminal sacrifice

<sup>a</sup>Represents the average test substance intake during the treatment period.

Females	Individual Test Substance Intake Values (mg Mo/kg bw/day)	Appendix J
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Animal Number	Phase	DOS			
	Day	71-77	78-84	85-91	1-91 <sup>a</sup>

## Group 3 - 17 mg Mo/kg bw/day

3501 ts	19.6	19.9	21.2	19.0
3502 ts	20.0	18.8	19.8	19.7
3503 ts	20.7	19.1	20.6	17.7
3504 ts	16.5	16.7	17.5	17.1
3505 ts	20.7	21.9	21.3	18.7
3506 ts	19.2	20.7	20.6	18.7
3507 ts	19.0	19.2	21.5	18.9
3508 ts	20.2	25.2	21.6	20.8
3509 ts	19.7	17.3	19.7	18.1
3510 ts	18.2	18.9	20.2	20.8
Mean	19.4	19.8	20.4	19.0
SD	1.28	2.42	1.24	1.23
N	10	10	10	10

ts = terminal sacrifice

<sup>a</sup>Represents the average test substance intake during the treatment period.

Females	Individual Test Substance Intake Values (mg Mo/kg bw/day)				Appendix J
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Animal Number	Phase	DOS			
	Day	71-77	78-84	85-91	1-91 <sup>a</sup>

## Group 4 - 60 mg Mo/kg bw/day

4501 ts	68.1	56.8	89.1	60.6
4502 ts	67.4	62.5	72.6	61.2
4503 ts	61.2	59.0	61.5	59.3
4504 ts	63.0	58.1	63.5	64.3
4505 ts	66.3	62.4	65.8	60.8
4506 ts	112.8	86.3		87.0
4507 ts	61.4	53.7	58.6	57.5
4508 ts	120.5			90.2
4509 ts	65.6	59.2	66.0	57.8
4510 ts	69.7	65.6	68.7	64.5
4511	61.4	54.2	49.0	57.6
4512	62.7	56.5	67.2	64.4
4513	73.6	72.5	78.7	68.2
4514	72.3	72.3	68.7	72.3
4515	61.5	54.1	57.7	60.8
4516	56.7	54.8	60.7	60.8
4517	71.2	61.8	75.1	74.3
4518	68.1	63.8	61.3	58.7
4519	70.0	63.6	67.5	62.7
4520	63.7	63.4	65.3	60.2
Mean	70.9	62.1	66.5	65.2
SD	16.31	8.03	8.82	9.21
N	20	19	18	20

ts = terminal sacrifice

<sup>a</sup>Represents the average test substance intake during the treatment period.

Males		Individual Food Conversion Efficiency Values (percent, %)											Appendix K
Animal Number	Phase Day	RND 1-7	DOS 1-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	57-63	64-70	71-77
Group 1 - 0 mg Mo/kg bw/day													
1001 ts		40.1	23.6	20.7	23.2	10.7	20.2	6.2	11.5	9.3	5.9	6.4	6.3
1002 ts		41.5	26.4	23.6	4.1	28.8	15.9	12.0	5.6	12.7	1.6	9.8	11.7
1003 ts		35.7	19.4	15.9	16.1	-12.6	20.3	16.2	14.1	10.4	5.1	2.8	12.1
1004 ts		37.6	21.5	17.7	18.1	16.6	12.4	11.7	11.7	6.2	5.7	9.8	7.5
1005 ts		38.1	24.2	19.1	22.9	12.9	16.4	13.6	12.3	9.2	8.1	8.9	10.2
1006 ts		36.8	20.9	21.0	13.5	10.9	14.5	9.9	14.1	9.6	11.9	6.2	9.1
1007 ts		38.1	21.0	17.7	18.6	8.9	11.3	8.4	9.9	8.3	0.0	5.6	5.2
1009 ts		43.9	22.4	22.4	21.0	13.0	14.6	14.6	10.2	3.2	5.3	4.2	10.3
1010 ts		28.4	24.9	18.9	18.8	7.8	13.9	14.1	10.7	5.8	2.9	5.7	8.1
1011		31.8	24.3	21.9	21.0	13.7	11.7	12.4	11.3	11.8	4.9	12.2	10.2
1012		34.8	17.5	16.6	20.9	6.3	10.9	9.6	8.2	7.5	7.8	5.4	11.4
1013		33.4	21.4	21.2	19.2	8.0	14.1	10.1	11.5	3.7	4.3	1.0	7.7
1014		40.2	23.5	24.5	23.0	14.7	8.4	17.2	14.1	11.5	8.9	13.3	6.4
1015		35.7	19.8	19.0	17.6	8.2	6.7	10.7	7.9	6.8	4.1	1.9	4.0
1016		38.1	26.8	23.6	20.0	17.3	14.6	11.7	12.0	11.0	7.1	7.6	7.9
1017		35.3	22.4	16.6	19.8	11.1	11.3	11.1	9.3	5.4	6.1	4.7	5.7
1018		33.3	21.8	22.2	20.9	12.1	13.0	10.1	12.0	11.2	8.1	5.9	7.8
1019		34.0	19.3	19.4	20.8	11.2	11.5	11.8	8.0	7.8	-0.1	10.2	13.0
1020		40.7	22.4	22.1	19.8	10.9	12.4	7.8	11.6	7.7	5.5	8.3	7.0
1021 ts		37.6	26.5	24.0	22.5	13.7	15.6	12.1	10.2	10.1	7.0	10.2	14.7
Mean		36.8	22.5	20.4	19.1	11.2	13.5	11.6	10.8	8.5	5.5	7.0	8.8
SD		3.66	2.55	2.65	4.25	7.38	3.34	2.70	2.23	2.70	2.94	3.33	2.81
N		20	20	20	20	20	20	20	20	20	20	20	20

ts = terminal sacrifice



Males		Individual Food Conversion Efficiency Values (percent, %)											Appendix K
Animal Number	Phase Day	RND 1-7	DOS 1-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	57-63	64-70	71-77
Group 2 - 5 mg Mo/kg bw/day													
2001 ts		36.3	21.5	20.0	20.7	10.4	8.2	9.4	7.1	6.8	4.6	8.3	8.2
2002 ts		35.6	25.2	22.0	19.1	10.0	13.4	14.1	6.4	10.6	5.9	7.9	10.7
2003 ts		33.5	19.8	15.8	18.8	13.0	12.6	13.0	7.1	8.8	5.8	10.6	9.4
2004 ts		39.6	25.8	21.2	19.0	12.4	7.8	9.1	3.7	12.5	6.9	4.9	4.9
2005 ts		40.5	23.6	23.5	13.6	9.0	16.9	12.1	9.1	10.1	6.0	2.9	9.2
2006 ts		34.5	24.4	18.3	16.7	9.0	14.0	10.2	5.1	6.0	7.3	6.3	10.4
2007 ts		32.3	20.6	15.3	17.9	12.5	12.8	10.0	7.4	6.7	6.9	5.3	5.5
2008 ts		34.5	22.2	19.4	21.0	14.5	13.3	12.1	12.0	8.9	8.6	12.7	8.0
2009 ts		39.1	26.5	22.9	22.8	15.8	15.6	10.0	12.4	10.3	3.3	9.9	13.7
2010 ts		29.4	15.8	15.4	11.6	7.8	14.0	7.9	5.5	4.0	5.0	4.1	5.1
Mean		35.5	22.5	19.4	18.1	11.4	12.9	10.8	7.6	8.5	6.0	7.3	8.5
SD		3.45	3.27	3.09	3.40	2.60	2.87	1.94	2.83	2.55	1.51	3.16	2.78
N		10	10	10	10	10	10	10	10	10	10	10	10

ts = terminal sacrifice

Males		Individual Food Conversion Efficiency Values (percent, %)											Appendix K
Animal Number	Phase Day	RND 1-7	DOS 1-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	57-63	64-70	71-77
Group 3 - 17 mg Mo/kg bw/day													
3001 ts		34.4	19.5	21.1	20.0	10.5	8.0	11.9	8.4	5.1	4.0	9.6	5.9
3002 ts		35.4	18.3	22.9	19.6	11.8	14.0	15.9	11.5	8.6	10.9	10.5	9.3
3003 ts		38.3	22.9	20.8	18.9	10.1	13.5	8.9	8.2	6.3	6.7	8.2	7.4
3005 ts		29.7	14.7	23.5	17.1	6.9	15.0	12.8	13.7	6.6	5.6	5.4	2.3
3006 ts		31.4	23.6	17.4	24.3	11.4	10.9	11.7	11.2	6.9	8.2	9.7	8.5
3007 ts		35.1	19.9	18.6	18.3	8.4	9.9	15.4	6.2	8.9	6.6	4.9	8.0
3008 ts		36.9	18.8	19.2	22.7	14.3	9.2	11.6	10.5	7.4	10.6	9.9	7.7
3009 ts		36.1	22.2	23.3	25.1	11.4	12.9	14.4	8.5	10.5	6.0	9.1	5.4
3010 ts		39.8	22.9	22.6	22.3	18.4	14.1	11.9	10.9	6.8	5.7	9.6	8.2
3011 ts		27.2	22.0	26.7	25.1	13.5	14.3	13.9	12.8	7.8	6.4	13.3	7.3
Mean		34.4	20.5	21.6	21.3	11.7	12.2	12.8	10.2	7.5	7.1	9.0	7.0
SD		3.91	2.77	2.75	2.95	3.22	2.46	2.10	2.33	1.53	2.22	2.42	2.02
N		10	10	10	10	10	10	10	10	10	10	10	10

ts = terminal sacrifice

Males		Individual Food Conversion Efficiency Values (percent, %)											Appendix K	
Animal Number	Phase Day	RND 1-7	DOS 1-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	57-63	65470	71-77	
Group 4 - 60 mg Mo/kg bw/day														
4001	ts	33.8	16.5	14.2	16.9	9.2	8.7	11.1	4.6	3.7	5.8	2.9	6.5	
4002	ts	30.8	11.4	15.2	14.6	5.8	3.7	8.5	6.1	-0.6	3.5	6.2	9.6	
4003	ts	35.8	18.0	16.6	12.2	8.1	11.6	5.0	9.9	4.2	2.0	2.3	2.5	
4004	ts	33.9	17.4	18.3	21.0	4.1	13.2	11.9	7.0	8.7	5.4	2.2	8.2	
4005	ts	31.5	16.7	17.9	14.5	7.7	10.1	8.8	9.4	5.6	5.4	6.1	7.1	
4006	ts	37.1	16.7	17.9	20.2	9.2	10.9	10.1	8.8	7.1	4.7	0.9	6.3	
4007	ts	35.3	17.7	18.2	16.3	3.5	12.8	11.4	11.1	3.6	7.7	3.9	8.3	
4009	ts	34.4	16.0	13.3	22.3	11.3	4.8	7.2	13.1	0.4	6.3	8.1	6.5	
4010	ts	34.6	19.3	21.0	13.0	7.3	13.0	8.5	11.7	10.3	-1.2	9.0	7.7	
4011		29.5	nw	15.9	12.7	25.9	-16.9	6.6	9.4	3.3	1.9	8.1	1.3	
4012		30.7	nw	13.3	17.6	3.6	12.4	9.7	8.4	3.9	-0.8	7.6	4.9	
4013		40.5	19.6	17.0	19.0	5.0	7.6	4.3	9.9	6.2	1.5	1.7	10.1	
4014		37.2	19.3	16.5	13.3	9.6	8.7	5.9	7.5	4.9	5.0	6.6	3.6	
4015		30.0	16.5	13.6	17.0	3.3	8.9	-175.2	33.5	13.7	5.4	13.3	5.2	
4016	u1	37.8	18.3	18.7	18.1	12.8	8.8	10.4						
4017		31.5	16.0	9.2	20.5	12.7	11.6	3.2	11.7	3.5	2.8	11.3	1.8	
4018		30.3	14.1	7.2	30.0	14.4	5.7	13.6	13.1	2.2	3.7	6.6	8.2	
4019		31.0	18.0	16.6	17.4	12.1	7.5	11.8	9.5	4.5	5.3	4.9	7.7	
4020		34.7	13.6	6.1	12.0	6.3	8.1	10.8	5.7	0.1	2.0	-5.0	4.8	
4021	ts	41.5	15.5	15.7	22.2	10.0	10.3	6.5	9.9	5.8	9.8	2.2	10.2	
Mean		34.1	16.7	15.1	17.5	9.1	8.1	-0.5	10.5	4.8	4.0	5.2	6.4	
SD		3.49	2.12	3.84	4.42	5.20	6.48	41.23	6.05	3.50	2.75	4.18	2.67	
N		20	18	20	20	20	20	20	19	19	19	19	19	

ts = terminal sacrifice, u1 = found dead, nw = not weight (food consumption or body weight not measured)

Males		Individual Food Conversion Efficiency Values (percent, %)										Appendix K
Animal Number	Phase Day	DOS		REC								
		78-84	85-91	1-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	
Group 1 - 0 mg Mo/kg bw/day												
1001	ts	-1.0	3.3									
1002	ts	-1.3	3.6									
1003	ts	3.2	5.0									
1004	ts	-4.3	1.5									
1005	ts	2.5	4.2									
1006	ts	3.4	4.2									
1007	ts	-3.1	4.0									
1009	ts	-0.9	2.3									
1010	ts	-0.5	-3.1									
1011		-8.6	3.2	7.1	8.6							
1012		-7.0	7.2	-1.0	7.7	1.4	5.6	8.0	7.5	10.8	0.0	
1013		-2.9	4.5	5.8	10.7	3.2	1.8	4.2	9.2	1.3	6.0	
1014		-5.2	-3.1	12.4	4.4	0.1	4.4	9.9	4.9	11.3	1.0	
1015		2.0	0.5	5.6	7.6	2.2	1.6	7.4	5.3	8.8	0.6	
1016		5.8	5.3	3.8	8.5	2.3	4.2	3.1	9.0	10.3	-1.4	
1017		5.0	8.6	-2.2	11.6	-3.7	6.7	1.6	9.8	7.4	-3.3	
1018		5.2	7.8	1.3	13.7	-3.4	8.4	5.1	10.1	4.5	5.4	
1019		5.7	1.7	9.4	10.5	3.8	4.9	9.4	8.1	9.6	5.4	
1020		1.5	0.1	2.6	11.2	0.5	2.5	5.1	9.9	2.1	0.5	
1021	ts	-0.2	4.9									
Mean		0.0	3.3	4.5	9.4	0.7	4.5	6.0	8.2	7.3	1.6	
SD		4.24	3.11	4.53	2.63	2.68	2.28	2.86	1.96	3.79	3.28	
N		20	20	10	10	9	9	9	9	9	9	

ts = terminal sacrifice

Males	Individual Food Conversion Efficiency Values (percent, %)	Appendix K
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Animal Number	Phase	DOS	
	Day	78-84	85-91

## Group 2 - 5 mg Mo/kg bw/day

2001 ts	-7.6	6.2
2002 ts	-1.9	4.4
2003 ts	4.1	8.5
2004 ts	-12.1	-0.6
2005 ts	-4.4	-2.1
2006 ts	-6.0	-3.9
2007 ts	-2.3	6.5
2008 ts	1.9	1.5
2009 ts	6.8	0.3
2010 ts	8.2	-0.9
Mean	-1.3	2.0
SD	6.53	4.16
N	10	10

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 ts = terminal sacrifice

Males	Individual Food Conversion Efficiency Values (percent, %)	Appendix K
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Animal Number	Phase	DOS	
	Day	78-84	85-91

## Group 3 - 17 mg Mo/kg bw/day

3001 ts	0.7	1.6
3002 ts	0.3	3.6
3003 ts	4.1	4.2
3005 ts	1.1	1.2
3006 ts	-0.3	-1.3
3007 ts	-5.3	2.7
3008 ts	5.9	0.2
3009 ts	2.0	1.2
3010 ts	-1.2	4.1
3011 ts	-3.7	5.3
Mean	0.4	2.3
SD	3.32	2.05
N	10	10

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 ts = terminal sacrifice

Males		Individual Food Conversion Efficiency Values (percent, %)										Appendix K
Animal Number	Phase Day	DOS		REC								
		78-84	85-91	1-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	
Group 4 - 60 mg Mo/kg bw/day												
4001	ts	-5.1	2.0									
4002	ts	-0.7	-5.8									
4003	ts	-7.7	2.0									
4004	ts	-0.1	-0.5									
4005	ts	0.4	3.9									
4006	ts	-2.6	5.8									
4007	ts	-2.7	-0.6									
4009	ts	2.4	0.1									
4010	ts	-3.3	-0.3									
4011		1.1	-1.5	13.8	10.5	1.9	3.3	4.9	7.5	6.4	1.8	
4012		-6.9	1.2	14.5	12.8	7.6	6.0	6.7	5.7	5.4	3.3	
4013		-1.0	-4.5	19.0	12.3	6.0	6.3	10.4	8.2	6.4	1.6	
4014		-1.0	5.0	10.2	9.1	5.1	4.9	6.2	5.6	5.9	2.6	
4015		-3.9	3.1	17.2	10.2	4.4	5.7	9.2	8.7	9.4	2.0	
4016	u1											
4017		-0.1	2.5	17.2	15.2	1.2	7.7	9.5	11.9	9.7	4.0	
4018		0.3	0.2	17.4	9.8	8.8	7.1	8.8	3.8	5.1	8.0	
4019		2.0	1.6	5.4	11.0	3.1	8.4	3.0	8.6	5.3	3.5	
4020		-5.9	2.5	20.5	7.8	10.6	11.4	5.9	11.0	6.9	3.7	
4021	ts	-7.7	-3.1									
Mean		-2.2	0.7	15.0	11.0	5.4	6.8	7.2	7.9	6.7	3.4	
SD		3.21	3.03	4.73	2.19	3.17	2.30	2.44	2.59	1.71	1.93	
N		19	19	9	9	9	9	9	9	9	9	

ts = terminal sacrifice, u1 = found dead

Females		Individual Food Conversion Efficiency Values (percent, %)											Appendix K
Animal Number	Phase Day	RND 1-7	DOS 1-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	57-63	64-70	71-77
Group 1 - 0 mg Mo/kg bw/day													
1501 ts		23.0	6.4	9.2	13.7	4.7	11.6	-0.4	9.5	2.0	7.7	-1.1	9.5
1502 ts		15.4	-4.2	20.9	2.1	2.1	-9.8	14.0	9.0	-2.7	-1.9	11.4	4.4
1503 ts		16.1	12.8	5.4	12.6	-0.7	7.4	3.0	8.8	-47.7	32.8	25.8	3.0
1504 ts		19.4	0.8	12.2	11.4	1.5	-0.7	7.8	10.9	1.8	-6.5	7.8	6.5
1505 ts		20.9	10.5	9.8	16.0	4.5	7.2	5.1	7.4	4.7	-3.6	0.6	7.0
1506 ts		17.9	9.4	3.5	13.7	5.3	7.5	1.6	8.9	1.9	5.6	2.0	8.8
1507 ts		21.1	5.4	16.4	9.5	-2.4	2.9	15.4	11.5	1.4	-4.7	9.6	8.2
1508 ts		20.9	8.2	11.4	10.4	3.9	11.2	4.0	3.8	3.9	5.9	-0.7	6.4
1509 ts		22.1	6.3	4.8	8.9	4.7	6.2	-1.0	17.8	23.0	-22.9	1.9	3.7
1510 ts		27.0	10.4	8.0	1.7	5.8	11.6	0.9	-0.2	8.5	5.4	-0.1	-1.9
1511		24.6	13.2	5.0	14.5	5.5	8.4	3.2	7.1	7.7	-3.1	1.9	10.5
1512		18.9	5.6	3.7	13.0	1.3	0.1	10.9	7.5	0.3	9.9	5.3	4.3
1513		23.4	1.3	16.0	7.2	4.4	-1.5	9.0	8.3	-2.6	-5.6	8.3	6.0
1514	nw	nw	nw	11.3	9.4	-3.0	3.2	11.5	9.0	-0.9	-3.9	9.0	6.0
1515		21.9	10.5	9.2	1.0	7.4	12.1	2.7	-0.8	8.2	9.5	-1.2	0.1
1516		25.0	7.7	18.6	8.0	5.2	5.4	7.8	4.4	-5.7	-2.1	8.1	6.6
1517		11.3	14.7	8.8	7.2	-2.5	14.6	4.0	-0.3	5.8	10.3	2.6	5.7
1518		11.9	18.4	12.6	13.1	-0.1	16.5	7.6	2.5	3.2	9.5	4.3	3.3
1519		19.9	3.7	18.8	12.0	6.8	-0.4	14.6	2.7	4.4	-3.8	13.2	5.7
1520		16.7	5.1	13.1	9.4	3.0	-2.6	13.2	-0.5	2.5	0.8	5.7	4.3
Mean		19.9	7.7	10.9	9.7	2.9	5.5	6.8	6.4	1.0	2.0	5.7	5.4
SD		4.20	5.33	5.22	4.27	3.18	6.63	5.19	4.84	12.87	10.81	6.43	2.96
N		19	19	20	20	20	20	20	20	20	20	20	20

ts = terminal sacrifice, nw = not weight (food consumption or body weight not measured)



Females		Individual Food Conversion Efficiency Values (percent, %)											Appendix K
Animal Number	Phase Day	RND 1-7	DOS 1-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	57-63	64-70	71-77
Group 2 - 5 mg Mo/kg bw/day													
2501 ts		24.2	9.4	14.1	3.6	10.6	5.8	6.7	-0.9	11.0	1.9	0.0	9.9
2502 ts		21.6	13.1	9.0	5.9	11.5	9.5	3.9	1.6	10.1	0.6	3.9	1.3
2503 ts		19.5	5.3	1.9	13.9	4.3	1.6	-3.6	14.9	5.0	-5.6	8.6	7.2
2504 ts		23.9	13.7	9.9	7.0	14.8	6.9	3.8	2.0	5.9	4.0	3.0	5.9
2505 ts		15.0	0.7	18.8	7.0	-3.1	-3.8	17.1	2.0	0.8	-5.7	13.8	4.7
2506 ts		18.4	8.3	5.5	-1.3	14.9	-1.7	4.1	7.7	7.8	-0.6	1.1	8.3
2507 ts		27.2	13.4	8.5	20.6	-3.2	11.8	-0.1	14.6	1.0	1.7	13.0	5.9
2508 ts		25.9	12.3	9.2	5.4	6.2	14.8	0.6	-3.2	12.9	2.9	8.4	0.2
2509 ts		30.3	8.5	13.6	11.4	9.6	1.3	6.2	13.7	-1.8	-1.1	5.4	1.0
2510 ts		18.2	1.9	14.0	-25.5	18.3	2.3	15.7	-0.4	-3.1	4.6	7.3	4.0
Mean		22.4	8.6	10.4	4.8	8.4	4.8	5.4	5.2	5.0	0.3	6.5	4.8
SD		4.73	4.72	4.83	12.22	7.34	5.98	6.57	6.95	5.57	3.60	4.68	3.26
N		10	10	10	10	10	10	10	10	10	10	10	10

ts = terminal sacrifice

Females		Individual Food Conversion Efficiency Values (percent, %)											Appendix K
Animal Number	Phase Day	RND 1-7	DOS 1-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	57-63	64-70	71-77
Group 3 - 17 mg Mo/kg bw/day													
3501 ts		26.0	13.0	8.3	9.6	0.4	9.9	7.3	4.8	0.4	5.9	7.3	2.7
3502 ts		27.1	13.1	14.8	6.2	0.5	11.3	4.2	5.2	5.0	1.5	2.6	8.3
3503 ts		21.9	7.1	10.1	11.5	6.3	6.8	2.7	8.3	-0.2	2.6	1.4	4.1
3504 ts		22.7	8.5	7.6	10.9	4.9	5.2	2.9	4.8	7.5	5.1	-5.7	-2.3
3505 ts		14.3	9.4	-3.4	8.8	2.6	-0.3	17.3	10.7	5.8	3.9	1.0	-0.1
3506 ts		26.1	1.4	16.0	1.2	13.0	7.1	8.5	2.8	3.0	5.3	7.9	5.4
3507 ts		12.3	14.3	10.6	10.7	1.6	7.6	9.2	6.5	-0.1	7.4	6.0	3.8
3508 ts		19.0	10.9	7.5	9.0	6.2	7.1	1.2	7.3	4.9	-1.6	2.5	9.9
3509 ts		18.9	8.9	17.7	9.7	6.2	1.3	13.8	2.2	1.5	-4.1	5.8	9.4
3510 ts		17.5	13.4	8.4	2.8	11.4	6.8	4.3	1.2	6.9	6.2	-1.6	-1.3
Mean		20.6	10.0	9.8	8.0	5.3	6.3	7.1	5.4	3.5	3.2	2.7	4.0
SD		5.07	3.88	5.92	3.52	4.32	3.52	5.21	2.92	2.93	3.68	4.25	4.36
N		10	10	10	10	10	10	10	10	10	10	10	10

ts = terminal sacrifice

Females		Individual Food Conversion Efficiency Values (percent, %)											Appendix K
Animal Number	Phase Day	RND 1-7	DOS 1-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	57-63	64-70	71-77
Group 4 - 60 mg Mo/kg bw/day													
4501 ts		24.7	1.6	17.8	3.5	1.2	-4.5	14.7	5.3	-0.9	-2.1	8.0	8.4
4502 ts		23.1	7.2	14.0	3.5	6.6	11.7	7.3	-3.7	2.2	7.8	-3.1	3.7
4503 ts		21.7	9.6	7.2	9.3	-0.5	2.6	4.0	1.0	1.9	1.5	-1.2	6.0
4504 ts		25.9	12.7	6.8	-1.6	9.4	7.5	7.0	-9.4	14.9	-5.1	7.2	-9.8
4505 ts		21.8	6.6	-6.7	13.0	-0.7	7.7	1.0	3.9	5.0	1.7	-2.3	6.6
4506 ts		19.5	1.5	1.4	7.6	0.0	5.5	0.4	1.2	-1.7	-0.1	3.9	2.5
4507 ts		28.8	11.9	8.4	-5.5	12.6	-0.1	9.0	-5.3	10.3	3.5	-8.6	3.2
4508 ts		16.6	12.0	4.8	11.9	4.8	3.0	1.7	7.8	0.5	0.4	-0.2	5.5
4509 ts		17.9	5.9	7.8	7.5	6.5	-0.6	7.9	5.6	0.1	1.3	6.5	4.4
4510 ts		13.5	17.3	3.6	-8.1	5.3	11.7	-0.2	-3.7	9.7	9.2	-5.1	-4.4
4511		20.5	1.8	5.7	12.0	0.4	4.5	-0.4	13.7	5.8	-4.4	-2.5	11.9
4512		23.1	6.5	9.1	9.8	-3.8	0.8	7.6	1.4	5.6	-4.1	8.3	-0.3
4513		25.6	6.5	3.4	5.3	5.0	6.4	-2.0	-3.6	4.1	-1.4	5.7	-3.4
4514		21.1	0.7	10.9	5.8	3.0	-2.0	6.7	4.8	0.4	-1.8	3.7	2.0
4515		26.0	13.9	7.6	6.3	13.5	4.8	4.0	1.4	10.1	-0.4	9.7	3.8
4516		14.5	21.5	10.6	12.3	-3.2	9.2	3.7	3.0	0.4	7.3	4.6	3.3
4517		10.1	13.6	7.1	10.4	-6.5	8.0	0.9	0.8	-4.8	4.6	-3.6	-0.3
4518		19.9	2.8	5.8	6.1	-4.2	6.2	1.1	6.0	-0.8	0.3	-1.8	6.6
4519		14.3	6.0	9.6	2.7	5.5	-0.6	11.0	2.4	2.9	2.7	-1.8	4.2
4520		25.6	11.1	2.1	5.2	4.2	6.3	6.7	-1.6	6.7	2.3	0.7	3.0
Mean		20.7	8.5	6.9	5.9	3.0	4.4	4.6	1.6	3.6	1.2	1.4	2.8
SD		4.95	5.67	5.05	5.72	5.42	4.50	4.35	5.22	4.92	3.94	5.16	4.78
N		20	20	20	20	20	20	20	20	20	20	20	20

ts = terminal sacrifice, ul = found dead

Females		Individual Food Conversion Efficiency Values (percent, %)										Appendix K
Animal Number	Phase Day	DOS		REC								
		78-84	85-91	1-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	
Group 1 - 0 mg Mo/kg bw/day												
1501	ts	-9.1	11.6									
1502	ts	-3.7	-4.3									
1503	ts	-4.8	1.8									
1504	ts	-3.6	-5.0									
1505	ts	-0.4	0.8									
1506	ts	-3.0	-0.8									
1507	ts	-4.9	-6.4									
1508	ts	-1.0	-2.4									
1509	ts	nw	-5.9									
1510	ts	5.8	0.9									
1511		1.2	-3.0	5.5	13.5	-43.5	20.2	14.4	7.2	-2.4	3.4	
1512		-11.8	4.1	7.5	1.3	2.7	-1.4	10.8	7.7	2.4	1.5	
1513		-12.9	3.5	9.9	2.6	0.3	1.0	5.6	4.3	2.7	-0.3	
1514		-5.4	-0.2	6.7	8.9	0.2	-0.8	3.2	4.5	3.2	-1.4	
1515		2.0	2.9	0.2	-4.2	5.4	4.1	-0.4	3.2	4.4	-0.1	
1516		-0.7	-5.4	10.4	4.2	-2.2	0.0	11.1	8.6	4.2	-1.4	
1517		-9.7	0.3	3.8	4.2	-2.4	4.4	6.2	3.4	0.4	-0.4	
1518		-2.2	0.7	6.8	5.4	-1.5	6.1	9.8	3.7	0.3	7.7	
1519		-3.4	-4.0	9.0	6.6	0.3	2.0	6.4	7.2	1.9	-5.1	
1520		-7.7	0.1	9.3	3.0	-0.5	-1.9	5.2	1.7	-0.9	9.3	
Mean		-4.0	-0.5	6.9	4.5	-4.1	3.4	7.2	5.1	1.6	1.3	
SD		4.78	4.30	3.13	4.69	14.04	6.48	4.32	2.32	2.22	4.36	
N		19	20	10	10	10	10	10	10	10	10	

ts = terminal sacrifice, nw = not weight (food consumption or body weight not measured)

Females	Individual Food Conversion Efficiency Values (percent, %)	Appendix K
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Animal Number	Phase	DOS	
	Day	78-84	85-91

Group 2 - 5 mg Mo/kg bw/day

2501 ts	0.6	0.3
2502 ts	-4.2	5.8
2503 ts	-5.7	-3.3
2504 ts	-2.9	1.9
2505 ts	-5.0	-6.2
2506 ts	-0.3	1.3
2507 ts	2.3	5.7
2508 ts	3.5	3.1
2509 ts	2.4	-3.3
2510 ts	-1.0	-1.0
Mean	-1.0	0.4
SD	3.30	3.94
N	10	10

ts = terminal sacrifice

Females	Individual Food Conversion Efficiency Values (percent, %)	Appendix K
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Animal Number	Phase	DOS	
	Day	78-84	85-91

## Group 3 - 17 mg Mo/kg bw/day

3501 ts	-4.7	0.3
3502 ts	0.9	-1.3
3503 ts	4.4	-0.2
3504 ts	3.5	-8.1
3505 ts	4.4	-2.7
3506 ts	-11.7	4.5
3507 ts	-4.2	3.6
3508 ts	0.5	-3.1
3509 ts	-5.7	-3.9
3510 ts	8.0	2.1
Mean	-0.5	-0.9
SD	6.00	3.78
N	10	10

ts = terminal sacrifice

Females		Individual Food Conversion Efficiency Values (percent, %)										Appendix K
Animal Number	Phase Day	DOS		REC								
		78-84	85-91	1-7	8-14	15-21	22-28	29-35	36-42	43-49	50-56	
Group 4 - 60 mg Mo/kg bw/day												
4501	ts	-12.8	-2.2									
4502	ts	0.4	1.7									
4503	ts	-3.8	1.0									
4504	ts	-1.2	-1.7									
4505	ts	-0.4	-1.6									
4506	ts	1.4	nw									
4507	ts	-3.2	-4.8									
4508	ts	nw	nw									
4509	ts	-12.5	6.1									
4510	ts	8.1	-1.9									
4511		-4.8	-12.5	17.8	-2.1	16.4	12.6	5.3	1.0	0.0	9.9	
4512		-4.6	0.1	10.1	-0.8	1.5	-2.4	4.9	2.4	3.0	0.4	
4513		-1.2	-1.9	10.3	5.6	-2.0	4.5	3.2	8.5	4.9	4.7	
4514		0.6	-7.1	14.2	6.2	-3.4	0.4	7.2	8.3	-1.1	-5.4	
4515		-3.6	4.5	6.5	0.5	9.7	0.7	-0.6	7.1	19.9	-4.1	
4516		-8.7	3.8	10.2	7.2	1.6	10.7	2.3	2.8	1.1	5.7	
4517		-4.0	3.1	11.8	12.3	-1.5	7.8	5.5	6.2	-0.2	5.3	
4518		-2.4	-6.2	12.8	10.3	5.4	0.4	0.8	7.5	2.8	-1.5	
4519		3.3	-5.1	6.7	3.5	4.2	-0.4	4.2	5.0	-2.6	4.0	
4520		-2.9	-0.5	12.0	2.5	3.4	7.3	1.5	2.7	12.0	-7.9	
Mean		-2.8	-1.4	11.2	4.5	3.5	4.2	3.4	5.1	4.0	1.1	
SD		4.98	4.62	3.34	4.70	5.96	5.19	2.42	2.74	6.94	5.72	
N		19	18	10	10	10	10	10	10	10	10	

ts = terminal sacrifice, ul = found dead, nw = not weight (food consumption or body weight not measured)

	Individual Clinical Pathology Data Preface	Appendix L
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	Individual Clinical Pathology Data Individual Hematology Values Preface	Appendix L
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Abbreviation	Parameter	Reporting Units
HGB	Hemoglobin Concentration	g/dL
HCT	Hematocrit	%
RBC	Erythrocyte Count	$10^6/\mu\text{L}$
RETIC	Absolute Reticulocyte Count	$10^9/\text{L}$
PLT	Platelet Count	$10^3/\mu\text{L}$
MCV	Mean Corpuscular Volume	fL
MCH	Mean Corpuscular Hemoglobin	pg
MCHC	Mean Corpuscular Hemoglobin Concentration	g/dL
RDW	Red Cell Distribution Width	%
WBC	Total Leukocyte Count	$10^3/\mu\text{L}$
ANEU	Absolute Neutrophils	$10^3/\mu\text{L}$
ALYM	Absolute Lymphocytes	$10^3/\mu\text{L}$
AMONO	Absolute Monocytes	$10^3/\mu\text{L}$
AEOS	Absolute Eosinophils	$10^3/\mu\text{L}$
ABASO	Absolute Basophils	$10^3/\mu\text{L}$
ALUC	Absolute Large Unstained Cells	$10^3/\mu\text{L}$

#### Key to Other Abbreviations

ACMO = Automated Count Invalidated by Manual Observations  
CS = Clotted specimen



Males		Individual Clinical Pathology Data Individual Hematology Values						Appendix L
Animal Number	Occasion Termination	ANEU x10 <sup>3</sup> /uL	ALYM x10 <sup>3</sup> /uL	AMONO x10 <sup>3</sup> /uL	AEOS x10 <sup>3</sup> /uL	ABASO x10 <sup>3</sup> /uL	ALUC x10 <sup>3</sup> /uL	
Group 1 - 0 mg Mo/kg bw/day								
1001		1.64	5.24	0.10	0.16	0.01	0.01	
1002		CS	CS	CS	CS	CS	CS	
1003		2.20	6.17	0.13	0.43	0.04	0.04	
1004		CS	CS	CS	CS	CS	CS	
1005		1.31	5.82	0.17	0.08	0.02	0.05	
1006		1.30	6.34	0.16	0.12	0.02	0.02	
1007		0.74	7.61	0.14	0.12	0.01	0.03	
1009		0.65	7.03	0.09	0.16	0.01	0.03	
1010		1.25	6.55	0.13	0.18	0.01	0.02	
1021		1.47	5.63	0.15	0.46	0.01	0.02	
Mean		1.32	6.30	0.13	0.21	0.02	0.03	
SD		0.491	0.768	0.028	0.146	0.011	0.013	
N		8	8	8	8	8	8	



Males		Individual Clinical Pathology Data Individual Hematology Values						Appendix L
Animal Number	Occasion Termination	ANEU x10 <sup>3</sup> /uL	ALYM x10 <sup>3</sup> /uL	AMONO x10 <sup>3</sup> /uL	AEOS x10 <sup>3</sup> /uL	ABASO x10 <sup>3</sup> /uL	ALUC x10 <sup>3</sup> /uL	
Group 2 - 5 mg Mo/kg bw/day								
2001		2.22	4.12	0.34	0.18	0.02	0.04	
2002		1.53	9.22	0.16	0.23	0.02	0.06	
2003		1.14	6.61	0.12	0.16	0.01	0.04	
2004		7.92	5.30	0.47	0.23	0.08	0.04	
2005		CS	CS	CS	CS	CS	CS	
2006		0.78	6.85	0.15	0.16	0.03	0.02	
2007		1.04	6.10	0.17	0.10	0.02	0.03	
2008		1.27	8.41	0.36	0.09	0.04	0.08	
2009		0.74	4.71	0.23	0.00	0.00	ACMO	
2010		1.87	5.53	0.08	0.11	0.02	0.02	
Mean		2.06	6.32	0.23	0.14	0.03	0.04	
SD		2.252	1.669	0.130	0.073	0.023	0.020	
N		9	9	9	9	9	8	



Males		Individual Clinical Pathology Data Individual Hematology Values						Appendix L
Animal Number	Occasion Termination	ANEU x10 <sup>3</sup> /uL	ALYM x10 <sup>3</sup> /uL	AMONO x10 <sup>3</sup> /uL	AEOS x10 <sup>3</sup> /uL	ABASO x10 <sup>3</sup> /uL	ALUC x10 <sup>3</sup> /uL	
Group 3 - 17 mg Mo/kg bw/day								
3001		1.86	9.12	0.16	0.22	0.03	0.03	
3002		0.96	4.97	0.09	0.15	0.00	0.02	
3003		0.98	5.97	0.10	0.11	0.02	0.02	
3005		CS	CS	CS	CS	CS	CS	
3006		1.42	7.53	0.24	0.16	0.02	0.06	
3007		0.91	4.17	0.09	0.09	0.01	0.02	
3008		1.27	6.03	0.27	0.11	0.02	0.05	
3009		1.16	5.63	0.19	0.11	0.02	0.04	
3010		1.55	7.75	0.27	0.12	0.03	0.02	
3011		1.62	8.73	0.32	0.19	0.03	0.09	
Mean		1.30	6.66	0.19	0.14	0.02	0.04	
SD		0.332	1.706	0.087	0.043	0.010	0.024	
N		9	9	9	9	9	9	





Males		Individual Clinical Pathology Data Individual Hematology Values						Appendix L
Animal Number	Occasion Termination	ANEU x10 <sup>3</sup> /uL	ALYM x10 <sup>3</sup> /uL	AMONO x10 <sup>3</sup> /uL	AEOS x10 <sup>3</sup> /uL	ABASO x10 <sup>3</sup> /uL	ALUC x10 <sup>3</sup> /uL	
Group 4 - 60 mg Mo/kg bw/day								
4001		2.06	5.85	0.09	0.30	0.03	0.01	
4002		1.43	5.31	0.09	0.15	0.02	0.02	
4003		CS	CS	CS	CS	CS	CS	
4004		1.45	6.82	0.08	0.12	0.02	0.03	
4005		1.63	5.80	0.17	0.70	0.02	0.03	
4006		0.86	7.42	0.35	0.00	0.00	ACMO	
4007		0.58	5.83	0.11	0.11	0.02	0.02	
4009		0.93	6.16	0.09	0.09	0.01	0.02	
4010		CS	CS	CS	CS	CS	CS	
4021		0.97	4.95	0.14	0.10	0.01	0.04	
Mean		1.24	6.02	0.14	0.20	0.02	0.02	
SD		0.486	0.791	0.090	0.220	0.009	0.010	
N		8	8	8	8	8	7	



Females		Individual Clinical Pathology Data Individual Hematology Values						Appendix L
Animal Number	Occasion Termination	ANEU x10 <sup>3</sup> /uL	ALYM x10 <sup>3</sup> /uL	AMONO x10 <sup>3</sup> /uL	AEOS x10 <sup>3</sup> /uL	ABASO x10 <sup>3</sup> /uL	ALUC x10 <sup>3</sup> /uL	
Group 1 - 0 mg Mo/kg bw/day								
1501		0.35	2.65	0.04	0.05	0.01	0.02	
1502		CS	CS	CS	CS	CS	CS	
1503		0.32	2.46	0.05	0.06	0.01	0.02	
1504		0.57	2.57	0.07	0.10	0.01	0.01	
1505		0.73	5.01	0.13	0.10	0.00	0.04	
1506		0.53	2.33	0.06	0.06	0.00	0.01	
1507		0.29	4.38	0.08	0.10	0.01	0.03	
1508		0.75	6.72	0.16	0.18	0.03	0.07	
1509		0.52	4.96	0.15	0.10	0.01	0.03	
1510		0.79	5.99	0.14	0.14	0.02	0.06	
Mean		0.54	4.12	0.10	0.10	0.01	0.03	
SD		0.191	1.671	0.047	0.041	0.009	0.021	
N		9	9	9	9	9	9	



Females		Individual Clinical Pathology Data Individual Hematology Values						Appendix L
Animal Number	Occasion Termination	ANEU x10 <sup>3</sup> /uL	ALYM x10 <sup>3</sup> /uL	AMONO x10 <sup>3</sup> /uL	AEOS x10 <sup>3</sup> /uL	ABASO x10 <sup>3</sup> /uL	ALUC x10 <sup>3</sup> /uL	
Group 2 - 5 mg Mo/kg bw/day								
2501		0.43	3.00	0.10	0.10	0.00	0.02	
2502		0.43	3.37	0.09	0.06	0.01	0.02	
2503		0.50	4.23	0.14	0.11	0.01	0.03	
2504		0.24	3.77	0.05	0.08	0.01	0.04	
2505		CS	CS	CS	CS	CS	CS	
2506		0.56	4.68	0.07	0.09	0.01	0.03	
2507		0.48	4.87	0.16	0.09	0.01	0.04	
2508		0.40	4.57	0.16	0.11	0.01	0.03	
2509		0.29	3.07	0.08	0.08	0.00	0.01	
2510		0.53	7.24	0.21	0.11	0.02	0.06	
Mean		0.43	4.31	0.12	0.09	0.01	0.03	
SD		0.107	1.301	0.052	0.017	0.006	0.015	
N		9	9	9	9	9	9	



Females		Individual Clinical Pathology Data Individual Hematology Values						Appendix L
Animal Number	Occasion Termination	ANEU x10 <sup>3</sup> /uL	ALYM x10 <sup>3</sup> /uL	AMONO x10 <sup>3</sup> /uL	AEOS x10 <sup>3</sup> /uL	ABASO x10 <sup>3</sup> /uL	ALUC x10 <sup>3</sup> /uL	
Group 3 - 17 mg Mo/kg bw/day								
3501		0.37	4.99	0.10	0.09	0.01	0.03	
3502		0.51	3.69	0.07	0.07	0.00	0.02	
3503		0.37	5.29	0.06	0.10	0.01	0.02	
3504		0.47	3.53	0.11	0.08	0.01	0.02	
3505		0.77	2.30	0.06	0.15	0.00	0.01	
3506		0.30	4.61	0.08	0.06	0.01	0.04	
3507		0.93	4.77	0.18	0.09	0.01	0.02	
3508		0.49	2.40	0.14	0.07	0.00	0.03	
3509		0.36	4.57	0.16	0.08	0.00	0.04	
3510		1.21	5.40	0.24	0.13	0.01	0.06	
Mean		0.58	4.16	0.12	0.09	0.01	0.03	
SD		0.297	1.126	0.059	0.028	0.005	0.014	
N		10	10	10	10	10	10	





Females		Individual Clinical Pathology Data Individual Hematology Values						Appendix L
Animal Number	Occasion Termination	ANEU x10 <sup>3</sup> /uL	ALYM x10 <sup>3</sup> /uL	AMONO x10 <sup>3</sup> /uL	AEOS x10 <sup>3</sup> /uL	ABASO x10 <sup>3</sup> /uL	ALUC x10 <sup>3</sup> /uL	
Group 4 - 60 mg Mo/kg bw/day								
4501		0.63	3.77	0.05	0.08	0.01	0.01	
4502		0.60	7.32	0.15	0.07	0.02	0.07	
4503		0.64	6.00	0.08	0.12	0.01	0.02	
4504		0.52	3.17	0.07	0.04	0.00	0.03	
4505		0.39	4.96	0.06	0.09	0.01	0.02	
4506		0.29	2.35	0.05	0.03	0.00	0.00	
4507		0.43	2.66	0.06	0.05	0.00	0.02	
4508		0.45	3.61	0.05	0.08	0.01	0.01	
4509		0.39	3.04	0.08	0.06	0.00	0.01	
4510		0.31	3.34	0.07	0.08	0.00	0.03	
Mean		0.47	4.02	0.07	0.07	0.01	0.02	
SD		0.128	1.588	0.030	0.026	0.007	0.019	
N		10	10	10	10	10	10	

	Individual Clinical Pathology Data Individual Coagulation Values Preface	Appendix L
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<b>Abbreviation</b>	<b>Parameter</b>	<b>Reporting Units</b>
PT	Prothrombin Time	seconds
APTT	Activated Partial Thromboplastin Time	seconds

**Key to Other Abbreviations**

CS	=	Clotted specimen
NVU	=	Non-valid – unobtainable result
NVIR	=	Not valid due to irreproducible result
QNS	=	Quantity not sufficient to perform analysis

Males	Individual Clinical Pathology Data Individual Coagulation Values	Appendix L
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Animal Number	Occasion Termination	PT Seconds	APTT Seconds
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Group 1 - 0 mg Mo/kg bw/day

1001		17.3	17.7
1002		17.0	15.6
1003		18.8	12.7
1004		16.1	13.2
1005		16.0	13.0
1006		17.7	16.9
1007		17.0	16.6
1009		16.2	13.5
1010		17.8	11.7
1021		17.4	12.7
Mean		17.1	14.4
SD		0.88	2.13
N		10	10

Males	Individual Clinical Pathology Data Individual Coagulation Values	Appendix L
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Animal Number	Occasion Termination	PT Seconds	APTT Seconds
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Group 2 - 5 mg Mo/kg bw/day

2001		16.5	15.0
2002		15.0	14.4
2003		17.0	14.8
2004		15.3	NVIR
2005		17.0	16.3
2006		16.2	14.6
2007		15.2	16.7
2008		15.9	16.4
2009		15.8	14.7
2010		15.9	12.3
Mean		16.0	15.0
SD		0.71	1.35
N		10	9

Males	Individual Clinical Pathology Data Individual Coagulation Values	Appendix L
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Animal Number	Occasion Termination	PT Seconds	APTT Seconds
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Group 3 - 17 mg Mo/kg bw/day

3001		15.7	17.6
3002		15.8	18.0
3003		CS	CS
3005		15.9	12.7
3006		17.3	12.3
3007		16.7	15.9
3008		16.8	17.8
3009		15.6	18.0
3010		14.5	14.4
3011		15.8	13.9
Mean		16.0	15.6
SD		0.82	2.35
N		9	9

Males	Individual Clinical Pathology Data Individual Coagulation Values	Appendix L
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Animal Number	Occasion Termination	PT Seconds	APTT Seconds
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Group 4 - 60 mg Mo/kg bw/day

4001		CS	CS
4002		16.9	15.8
4003		CS	CS
4004		15.8	13.4
4005		CS	CS
4006		CS	CS
4007		15.9	14.0
4009		15.7	11.0
4010		15.7	12.3
4021		16.3	15.6
Mean		16.1	13.7
SD		0.47	1.87
N		6	6

Females	Individual Clinical Pathology Data Individual Coagulation Values	Appendix L
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Animal Number	Occasion Termination	PT Seconds	APTT Seconds
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Group 1 - 0 mg Mo/kg bw/day

1501		> 180	> 180
1502		15.2	12.2
1503		14.8	14.9
1504		15.9	15.2
1505		15.3	13.4
1506		13.9	12.4
1507		14.9	16.5
1508		14.6	15.3
1509		14.9	14.7
1510		15.3	17.5
Mean		15.0	14.7
SD		0.55	1.77
N		9	9

Females	Individual Clinical Pathology Data Individual Coagulation Values	Appendix L
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Animal Number	Occasion Termination	PT Seconds	APTT Seconds
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Group 2 - 5 mg Mo/kg bw/day

2501		13.9	12.8
2502		14.1	15.8
2503		14.8	13.6
2504		15.4	17.3
2505		15.1	12.6
2506		15.5	15.4
2507		14.1	14.9
2508		16.4	14.5
2509		14.4	12.3
2510		NVU	QNS
Mean		14.9	14.4
SD		0.82	1.68
N		9	9



Females	Individual Clinical Pathology Data Individual Coagulation Values	Appendix L
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Animal Number	Occasion Termination	PT Seconds	APTT Seconds
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Group 3 - 17 mg Mo/kg bw/day

3501		15.9	13.4
3502		15.0	17.1
3503		14.7	11.4
3504		14.4	13.7
3505		16.3	13.5
3506		14.4	15.0
3507		15.4	15.0
3508		15.6	15.0
3509		16.1	15.0
3510		15.6	14.3
Mean		15.3	14.3
SD		0.69	1.49
N		10	10

Females	Individual Clinical Pathology Data Individual Coagulation Values	Appendix L
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Animal Number	Occasion Termination	PT Seconds	APTT Seconds
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Group 4 - 60 mg Mo/kg bw/day

4501		15.1	13.4
4502		15.2	14.9
4503		14.8	15.1
4504		15.1	20.7
4505		14.6	12.3
4506		15.0	15.6
4507		15.9	18.9
4508		14.6	14.7
4509		15.3	17.4
4510		15.3	13.9
Mean		15.1	15.7
SD		0.38	2.59
N		10	10

	Individual Clinical Pathology Data Individual Clinical Chemistry Values Preface	Appendix L
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Abbreviation	Parameter	Reporting Units
AST	Aspartate Aminotransferase	U/L
ALT	Alanine Aminotransferase	U/L
ALKP	Alkaline Phosphatase	U/L
BUN	Blood Urea Nitrogen	mg/dL
CREAT	Creatinine	mg/dL
GLU	Fasting Glucose	mg/dL
CHOL	Cholesterol (Enzymatic)	mg/dL
TRIG	Triglycerides	mg/dL
TP	Total Protein	g/dL
ALB	Albumin	g/dL
Glob	Globulin (calculated)	g/dL
A/G	Albumin/Globulin Ratio (calculated)	
URIC	Uric Acid	mg/dL
TBILI	Total Bilirubin	mg/dL
Na <sup>+</sup>	Sodium	mEq/L
K <sup>+</sup>	Potassium	mEq/L
Cl <sup>-</sup>	Chloride	mEq/L
Ca <sup>++</sup>	Calcium	mg/dL
PHOS	Inorganic Phosphorus	mg/dL





































Females	Individual Estrus Cycle Data	Appendix M
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Group 1 - 0 mg Mo/kg bw/day

Animal No.	Dosing Phase Day																				Cycles					ML	NC		
	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	C <sub>4</sub>			C <sub>5</sub>	
1501	M	D	D	/E	M	D	D	/E	M-D	D	D	E	/E	M	D	D	/E	D	D	D	D	4	5	4			4.3	3	
1502	/E	D	D	P	/E	D	D	P	/E	D	D	P	/E	M	D	P	/E	M	D	P	/E	4	4	4	4	4	4.0	5	
1503	P	P-E	D-P	/E	M	D	P	/E	M	D	D-P	/E	M	D	D	/E	M	D	D	D	D	4	4	4			4.0	3	
1504	/E	D	D	P-E	/E	D	D	P	/E	M	D	D-P	/E	M	D	P	/E	D	D	D	/E	4	4	4	4	4	4.0	5	
1505	P	D	D	/E	D	D	P	/E	D	D	D	/E	D	D	D	/E	D	D	D	/E	M	4	4	4	4		4.0	4	
1506	P	P-E	D	/E	M	D	P	/E	M	D	D	/E	M	D	D	/E	D	D	P	/E	M	4	4	4	4		4.0	4	
1507	P-E	/E	D	D-P	/E	M-D	D	D-P	/E	M	D	D	/E	M	P-E	M	/E	M	D	P	/E	3	4	4	4	4	3.8	5	
1508	P	M	D	/E	D	D	P	/E	D	D-P	D	/E	D	D	P	/E	D	D	P	/E	D	4	4	4	4		4.0	4	
1509	P	P	P	/E	D	D	D	D	D	D-P	D	D	D	D	D	D	D	D	D	P	E	Ps							
1510	D	D	/E	D	D	D-P	/E	M-D	D	E	/E	M	D	P-E	/E	M	D	D	/E	M	D	4	4	4	4		4.0	4	
1511	D	D	P	/E	D	D	P	/E	M	D	D	/E	M	D	P	/E	M	D	D-P	/E	M	4	4	4	4		4.0	4	
1512	P-E	/E	D	D	/E	M	D	D	P	/E	D	D	D-P	/E	M	D	D-P	/E	D	D	D	3	5	4	4		4.0	4	
1513	/E	M	D	D-P	/E	M	D	P	/E	M	D	P	/E	M	D	P	/E	M	D	P	/E	4	4	4	4	4	4.0	5	
1514	/E	M	D	D	/E	D	D	P	/E	M	D	P	/E	M	D	E	/E	D	D	D-P	/E	4	4	4	4	4	4.0	5	
1515	M	D	/E	M	D	D	/E	M	D	E	/E	M-D	D	D	/E	M	M	D	/E	M	D	4	4	4	4		4.0	4	
1516	E	/E	D	D	/E	D	D	P	/E	M	D	P	/E	M	D	P	/E	D	D	P-E	/E	3	4	4	4	4	3.8	5	
1517	P-E	/E	D	D	D	/E	M	D	P	/E	D	D	P	/E	M	D	D	/E	M	D	D-P	4	4	4	4		4.0	4	
1518	E	/E	D	D	D-P	/E	M	D	D-P	/E	M	D	P	/E	M	D	P	/E	M	D	P	4	4	4	4		4.0	4	
1519	/E	M-D	D	P	/E	D	D	P	/E	D	D	P-E	/E	M	D	D	/E	D	D	D-P	/E	4	4	4	4	4	4.0	5	
1520	E	/E	D	D-P	/E	D	D	P	/E	M	D	P	/E	M	D	P	/E	M	D	D	/E	3	4	4	4	4	3.8	5	

Mean 4.0 4

S.D. 0.11 0.7

N 19 19

Estrus cycles evaluated for 21 days

/ = point from which the number of days in the estrous cycle is counted.

No. with irregular cycles 1

D = Diestrus  
P = Proestrus  
E = Estrus, Bold E = start of cycle

M = Metestrus  
Ps = Pseudopregnancy  
NC = Number of cycles

ML = Mean length of cycle (days)  
X = Vaginal cycle not discernible  
Y = Irregular cycle, length not determined  
Z = Irregular cycle

Females	Individual Estrus Cycle Data	Appendix M
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Group 2 - 5 mg Mo/kg bw/day

Animal No.	Dosing Phase Day																				Cycles					ML	NC	
	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	C <sub>4</sub>			C <sub>5</sub>
2501	M	P	/E	M	D	D	/E	M	D	D	E	/E	M-D	P	P	P	P	P	P	D-P	E	4	5	Z			4.5	2
2502	M	D	/E	M	D	D	/E	M	D	P	/E	M	D	P	/E	M-D	D	D	/E	M	D	4	4	4	4		4.0	4
2503	P	D	D-P	/E	D	D	D	E	/E	M	D	D	/E	M-D	D	P	/E	M-D	D	D	/E	5	4	4	4		4.3	4
2504	M	D	/E	M	D	D	/E	M	D	D-P	/E	M	D	P	/E	M	D	D	/E	M	D	4	4	4	4		4.0	4
2505	/P-E	M	D	D	/E	M	D	D	/E	M	D	D-P	/E	M	D	P	/E	M	D	D	/E	4	4	4	4	4	4.0	5
2506	M	D	E	/E	D	D	D	/E	M-D	D	D	/E	M	D	D	/E	M	D	P	/E	M	4	4	4	4		4.0	4
2507	P	P-E	D	/E	M	D	D	/E	M	D	D	/E	M	D	P	E	/E	D	D-P	D-P	/E	4	4	5	4		4.3	4
2508	M	P-E	/E	M	D	D	/E	M	D	P	/E	M-D	D	D	/E	M	D	D	/E	M	D	4	4	4	4		4.0	4
2509	M	D	D-P	E	/E	D	ND	E	/E	M	D	D	/E	M	D	P	/E	D	D	D	/E	4	4	4	4		4.0	4
2510	P	/E	M-D	D	D	/E	M	D	P	/E	M-D	D	P	/E	M	D	P	/E	M	D	P	4	4	4	4		4.0	4
													Mean					4.1	4									
													S.D.					0.17	0.7									
													N					10	10									
													No. with irregular cycles					1										

Estrus cycles evaluated for 21 days

/ = point from which the number of days in the estrous cycle is counted.

D = Diestrus  
P = Proestrus  
E = Estrus, Bold E = start of cycle

M = Metestrus  
Ps = Pseudopregnancy  
NC = Number of cycles

ML = Mean length of cycle (days)  
X = Vaginal cycle not discernible  
Y = Irregular cycle, length not determined  
Z = Irregular cycle

Females	Individual Estrus Cycle Data	Appendix M
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Group 3 - 17 mg Mo/kg bw/day

Animal No.	Dosing Phase Day																				Cycles					ML	NC	
	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	C <sub>4</sub>			C <sub>5</sub>
3501	P-E	/E	M	D	D	/E	M	D	D-P	/E	M-D	D	D-P	/E	M	D	D-P	/E	M	D	D	4	4	4	4	4.0	4	
3502	/P-E	D	P	/E	D	D	E	/E	M	D	D	/E	M	D	P	/E	M	D	D	/E	M	3	4	4	4	4	3.8	5
3503	P-E	/E	D	D	/E	D	D-P	D	/E	M	D	D	/E	M	D	P	/E	D	D	D	/E	3	4	4	4	4	3.8	5
3504	M	D	D-P	/E	M-D	D	P	/E	D	D	D-P	/E	M-D	D	P	/E	M	D	P	/E	M	4	4	4	4	4.0	4	
3505	/E	D	D	D	E	/E	M	D	D	E	/E	M-D	D	D	/E	M	D	D	/E	M	ND	5	5	4	4	4.5	4	
3506	M	D	E	/E	D	D	D	E	/E	D	D	D	/E	M	M	M	D-P	D-P	D-P	D-P	D-P	5	4	Y		4.5	2	
3507	P	/E	D	D	D-P	/E	M	D	P	/E	M	D	P	/E	D	P	P-E	/E	M	D	D-P	4	4	4	4	4.0	4	
3508	D	D	D	E	/E	D	D	/E	M	D	D	/E	M-D	D	D	/E	D	D	D-P	/E	M	3	4	4	4	3.8	4	
3509	/E	M-D	D	P	/E	M-D	D	P	/E	M-D	D	D-P	E	/E	M-D	P	/E	M	D	P	/E	4	4	5	3	4	4.0	5
3510	M	P	/E	M	D	P	/E	M	D	P	/E	M	D	D	/E	M-D	D	D-P	/E	M	D	4	4	4	4	4.0	4	
																								Mean	4.0	4		
																								S.D.	0.26	0.9		
																								N	10	10		

Estrus cycles evaluated for 21 days

/ = point from which the number of days in the estrous cycle is counted.

No. with irregular cycles 1

D = Diestrus  
P = Proestrus  
E = Estrus, Bold E = start of cycle

M = Metestrus  
Ps = Pseudopregnancy  
NC = Number of cycles

ML = Mean length of cycle (days)  
X = Vaginal cycle not discernible  
Y = Irregular cycle, length not determined  
Z = Irregular cycle

Females	Individual Estrus Cycle Data	Appendix M
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Group 4 - 60 mg Mo/kg bw/day

Animal No.	Dosing Phase Day																					Cycles					ML	NC	
	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	C <sub>4</sub>	C <sub>5</sub>			
4501	/E	M	D	D	/E	M	D	P	/E	M	D	D-P	/E	D	D	P	/E	M-D	D	D	/E	4	4	4	4	4	4.0	5	
4502	M	D	E	/E	D	D	P	P	P	P	P	D	E	/E	M	D	D-P	E	/E	D	D	Z	5				5.0	1	
4503	D	D	D	/E	D	D	D	/E	M	D	D	/E	D	D	D	/E	M-D	D	D	/E	M-D	4	4	4	4		4.0	4	
4504	M	D	/E	M	D	P	/E	M	D	P	/E	M	D	P	/E	M	D	D	/E	M	D	4	4	4	4		4.0	4	
4505	D	D	D	/E	D	D	P	/E	M	D	D	/E	M	D	P	/E	M	D	D	/E	M	4	4	4	4		4.0	4	
4506	D	D	D-P	/E	D	D	P	/E	M-D	D	D-P	/E	M	D	P-E	/E	M	D	P	/E	D	4	4	4	4		4.0	4	
4507	M	D	/E	M	D	P	E	/E	D	P	/E	M	D	P	/E	M	D	D-P	/E	M	D	5	3	4	4		4.0	4	
4508	P	D	P	/E	M	D	D	/E	M	D-P	D	/E	M	D	P	/E	M	D	P	/E	M	4	4	4	4		4.0	4	
4509	P-E	/E	D	D	/E	M-D	D	D	/E	M-D	D	D	/E	M	D	P	/E	M	D	D-P	/E	3	4	4	4	4	3.8	5	
4510	D	D	/E	M	D	D	/E	M	D	D	/E	D	D	E	/E	M	D	D	/E	D	D	4	4	4	4		4.0	4	
4511	/P-E	M	D	/E	M	D	P	/E	M	D	D	/E	M	D	P	/E	M	D	P	/E	M	3	4	4	4	4	3.8	5	
4512	P-E	/E	D	P	/E	M	D	P	/E	M	D	D	P	/E	D	D	P	/E	M-D	D	P	/E	3	4	4	4	4	3.8	5
4513	M	D	/E	D	D	D-P	/E	M	D	D	E	/E	M	D	D	E	/E	M-D	D	D	D	4	5	5			4.7	3	
4514	/E	M	D	D	/E	M	D	D	/E	M	D	D	/E	M	D	P	/E	M	D	D	/E	4	4	4	4	4	4.0	5	
4515	M	D	/E	M	D	D	/E	M	D	D	E	/E	M	D	D	/E	M	D	P	D	D	4	5	4			4.3	3	
4516	E	/E	M	D	D	E	/E	M	D-P	/E	D	D	P	/E	M	D	D	/E	M	D	P	5	3	4	4		4.0	4	
4517	E	/E	M	D	D-P	/E	M	D	D	/E	D	D	D	/E	M	D	D	/E	M	D	D	4	4	4	4		4.0	4	
4518	D	D	P	/E	D	D	P	/E	M-D	D	D	/E	M	D	P	/E	D	D	D	/E	D	4	4	4	4		4.0	4	
4519	/E	M	ND	P	/E	ND	D	P	E	/E	D	D-P	/E	M	D	D	/E	D	D	D	/E	4	5	3	4	4	4.0	5	
4520	M	D	/E	D	D	D-P	/E	M	ND	D	/E	M-D	D	P	/E	M	D	D-P	/E	D	D	4	4	4	4		4.0	4	

Mean	4.1	4
S.D.	0.29	0.9
N	20	20

Estrus cycles evaluated for 21 days

/ = point from which the number of days in the estrous cycle is counted.

No. with irregular cycles 1

D = Diestrus  
P = Proestrus  
E = Estrus, Bold E = start of cycle

M = Metestrus  
Ps = Pseudopregnancy  
NC = Number of cycles

ML = Mean length of cycle (days)  
X = Vaginal cycle not discernible  
Y = Irregular cycle, length not determined

	Individual Organ Weights Preface	Appendix N
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**Key to Abbreviations:**

Term bwt	=	Terminal body weight
%Body	=	Organ to Terminal Body Weight Ratio
%Brain	=	Organ to Brain Weight Ratio
Thyroid/para	=	Thyroid/parathyroid
Prostate w/semis	=	Prostate with Seminal Vesicles
w/	=	with

































































Females		Individual Organ Weights Terminal Sacrifice						Appendix N
Animal Number	Term bwt (g)	Uterus w/ Cervix			Thyroid/para			
		(g)	%Body	%Brain	(g)	%Body	%Brain	
Group 1 - 0 mg Mo/kg bw/day								
1501	289.0	0.5824	0.2015	32.2820	0.0274	0.0095	1.5188	
1502	256.3	0.5655	0.2206	28.9881	0.0268	0.0105	1.3738	
1503	276.6	0.7074	0.2558	36.5657	0.0216	0.0078	1.1165	
1504	277.4	0.6245	0.2251	33.6295	0.0311	0.0112	1.6747	
1505	301.1	1.1289	0.3750	54.5626	0.0305	0.0101	1.4741	
1506	277.9	1.4578	0.5246	71.9404	0.0266	0.0096	1.3127	
1507	297.6	0.7630	0.2564	40.0273	0.0312	0.0105	1.6368	
1508	273.6	1.8734	0.6847	100.7150	0.0355	0.0130	1.9085	
1509	289.0	0.5630	0.1948	28.0882	0.0224	0.0078	1.1175	
1510	290.5	0.6015	0.2071	30.0405	0.0321	0.0111	1.6032	
Mean	282.9	0.8867	0.3146	45.6839	0.0285	0.0101	1.4737	
SD	13.19	0.45418	0.16569	23.73415	0.00438	0.00157	0.25060	
N	10	10	10	10	10	10	10	

Females		Individual Organ Weights Terminal Sacrifice						Appendix N
Animal Number	Term bwt (g)	Uterus w/ Cervix			Thyroid/para			
		(g)	%Body	%Brain	(g)	%Body	%Brain	
Group 2 - 5 mg Mo/kg bw/day								
2501	318.9	0.8086	0.2536	38.9837	0.0255	0.0080	1.2294	
2502	272.4	0.5127	0.1882	28.1070	0.0310	0.0114	1.6995	
2503	289.8	0.6374	0.2199	33.4681	0.0229	0.0079	1.2024	
2504	299.7	0.8191	0.2733	43.5020	0.0261	0.0087	1.3862	
2505	271.2	0.5879	0.2168	30.0978	0.0236	0.0087	1.2082	
2506	278.0	1.0020	0.3605	53.9754	0.0225	0.0081	1.2120	
2507	358.9	0.6367	0.1774	34.9912	0.0245	0.0068	1.3464	
2508	322.5	0.6978	0.2164	34.0573	0.0282	0.0087	1.3763	
2509	316.7	0.6365	0.2010	32.1400	0.0253	0.0080	1.2775	
2510	254.5	0.6332	0.2488	33.8302	0.0208	0.0082	1.1113	
Mean	298.3	0.6972	0.2356	36.3153	0.0250	0.0085	1.3049	
SD	31.33	0.14188	0.05303	7.56638	0.00295	0.00117	0.16382	
N	10	10	10	10	10	10	10	

Females		Individual Organ Weights Terminal Sacrifice						Appendix N
Animal Number	Term bwt (g)	Uterus w/ Cervix			Thyroid/para			
		(g)	%Body	%Brain	(g)	%Body	%Brain	
Group 3 - 17 mg Mo/kg bw/day								
3501	309.8	0.5291	0.1708	26.9866	0.0240	0.0077	1.2241	
3502	329.0	1.0502	0.3192	57.0482	0.0266	0.0081	1.4449	
3503	278.2	0.6184	0.2223	32.3448	0.0251	0.0090	1.3128	
3504	287.2	0.5890	0.2051	31.2948	0.0254	0.0088	1.3496	
3505	228.1	0.7468	0.3275	37.4055	0.0183	0.0080	0.9166	
3506	290.2	0.7595	0.2618	41.4506	0.0298	0.0103	1.6264	
3507	321.1	0.7545	0.2350	39.5938	0.0238	0.0074	1.2490	
3508	318.7	1.0436	0.3275	50.4471	0.0249	0.0078	1.2037	
3509	292.4	0.6875	0.2351	34.5495	0.0277	0.0095	1.3920	
3510	331.4	0.6088	0.1837	30.3656	0.0236	0.0071	1.1771	
Mean	298.6	0.7387	0.2488	38.1487	0.0249	0.0084	1.2896	
SD	31.03	0.17983	0.05850	9.43262	0.00302	0.00099	0.18776	
N	10	10	10	10	10	10	10	

Females		Individual Organ Weights Terminal Sacrifice						Appendix N
Animal Number	Term bwt (g)	Uterus w/ Cervix			Thyroid/para			
		(g)	%Body	%Brain	(g)	%Body	%Brain	
Group 4 - 60 mg Mo/kg bw/day								
4501	256.6	0.7384	0.2878	38.6536	0.0275	0.0107	1.4396	
4502	297.2	0.8425	0.2835	45.9103	0.0244	0.0082	1.3296	
4503	255.4	0.7698	0.3014	41.4852	0.0238	0.0093	1.2826	
4504	253.5	1.0262	0.4048	55.5183	0.0193	0.0076	1.0441	
4505	259.4	1.1270	0.4344	56.4912	0.0280	0.0108	1.4035	
4506	257.8	1.0072	0.3908	52.3847	0.0221	0.0086	1.1494	
4507	291.5	0.6606	0.2266	33.1610	0.0228	0.0078	1.1445	
4508	303.5	0.9688	0.3192	50.3927	0.0271	0.0089	1.4096	
4509	260.0	0.5525	0.2125	28.1156	0.0338	0.0130	1.7200	
4510	233.8	0.6118	0.2617	34.8982	0.0219	0.0094	1.2492	
Mean	266.9	0.8305	0.3123	43.7011	0.0251	0.0094	1.3172	
SD	22.53	0.19518	0.07535	9.94527	0.00414	0.00165	0.19198	
N	10	10	10	10	10	10	10	

































Females		Individual Organ Weights Recovery Sacrifice						Appendix N
Animal Number	Term bwt (g)	Uterus w/ Cervix			Thyroid/para			
		(g)	%Body	%Brain	(g)	%Body	%Brain	
Group 1 - 0 mg Mo/kg bw/day								
1511	385.9	0.6699	0.1736	33.7192	0.0405	0.0105	2.0386	
1512	302.7	0.8995	0.2971	49.6934	0.0218	0.0072	1.2044	
1513	308.6	0.6326	0.2050	33.5170	0.0234	0.0076	1.2398	
1514	305.3	0.6653	0.2179	33.7699	0.0211	0.0069	1.0710	
1515	277.4	0.6753	0.2434	36.4909	0.0323	0.0116	1.7454	
1516	321.9	0.8045	0.2499	42.0962	0.0264	0.0082	1.3814	
1517	268.6	1.0045	0.3740	49.9254	0.0208	0.0077	1.0338	
1518	357.5	1.1258	0.3149	58.8377	0.0305	0.0085	1.5940	
1519	314.1	0.6091	0.1940	31.5302	0.0244	0.0078	1.2631	
1520	292.4	1.1374	0.3889	55.3399	0.0274	0.0094	1.3331	
Mean	313.4	0.8224	0.2659	42.4920	0.0269	0.0085	1.3905	
SD	35.29	0.20597	0.07503	10.16139	0.00617	0.00152	0.31510	
N	10	10	10	10	10	10	10	

Females		Individual Organ Weights Recovery Sacrifice						Appendix N
Animal Number	Term bwt (g)	Uterus w/ Cervix			Thyroid/para			
		(g)	%Body	%Brain	(g)	%Body	%Brain	
Group 4 - 60 mg Mo/kg bw/day								
4511	336.2	0.6684	0.1988	31.8665	0.0245	0.0073	1.1681	
4512	291.9	0.6634	0.2273	36.1093	0.0220	0.0075	1.1975	
4513	298.6	0.6959	0.2331	36.3926	0.0339	0.0114	1.7728	
4514	276.7	0.9995	0.3612	49.6054	0.0245	0.0089	1.2159	
4515	368.9	0.6304	0.1709	33.8852	0.0240	0.0065	1.2900	
4516	346.3	0.9690	0.2798	48.7842	0.0233	0.0067	1.1730	
4517	325.4	1.0105	0.3105	51.6457	0.0204	0.0063	1.0426	
4518	280.6	0.6712	0.2392	31.2841	0.0239	0.0085	1.1140	
4519	269.4	0.8845	0.3283	45.0379	0.0262	0.0097	1.3341	
4520	287.1	0.7008	0.2441	37.7566	0.0357	0.0124	1.9234	
Mean	308.1	0.7894	0.2593	40.2368	0.0258	0.0085	1.3231	
SD	33.79	0.15659	0.05963	7.76434	0.00499	0.00210	0.29060	
N	10	10	10	10	10	10	10	



	Individual Sperm Analysis Data Preface	Appendix O
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Males	Individual Sperm Motility and Counts Terminal Sacrifice						Appendix O
Animal Number	Right vas deferens			Right Cauda Epididymis		Right Testis	
	Motile sperm (%)	Progressively motile sperm (%)	Number of Sperm Analyzed	Weight (g)	Sperm count (millions/g)	Weight (g)	Spermatid count (millions/g)
Group 1 – 0 mg Mo/kg bw/day							
1001	98	76	286	0.3883	474.4	1.7088	84.0
1002	98	58	312	0.3677	423.6	1.8499	141.3
1003	99	70	303	0.3913	572.6	1.6486	102.0
1004	98	76	227	0.4012	518.5	1.7155	95.0
1005	98	78	224	0.2867	314.1	1.7782	75.7
1006	98	77	210	0.4103	716.4	1.6256	92.3
1007	98	70	385	0.3762	550.2	1.6145	87.3
1021	97	59	294	0.3774	637.6	1.6544	56.3
1009	99	82	220	0.3417	539.1	1.6945	90.9
1010	90	48	295	0.3934	680.0	1.8062	93.1
Mean	97.3	69.4		0.3734	542.7	1.7096	91.8
SD	2.6	10.9		0.0360	120.5	0.0795	21.5
N	10	10		10	10	10	10

Males	Individual Sperm Motility and Counts Terminal Sacrifice						Appendix O
Animal Number	Right vas deferens			Right Cauda Epididymis		Right Testis	
	Motile sperm (%)	Progressively motile sperm (%)	Number of Sperm Analyzed	Weight (g)	Sperm count (millions/g)	Weight (g)	Spermatid count (millions/g)
Group 2 – 5 mg Mo/kg bw/day							
2001	99	73	204	0.3506	659.8	1.5804	76.9
2002	95	67	288	0.3873	638.7	1.8333	76.2
2003	97	79	215	0.3597	484.8	1.7529	103.3
2004	99	81	222	0.3926	635.3	1.7493	101.3
2005	98	56	282	0.4179	673.6	1.7672	78.3
2006	99	45	248	0.3858	803.4	2.0794	96.4
2007	100	52	223	0.3388	739.2	1.9380	94.8
2008	94	37	250	0.4401	488.0	2.0428	114.0
2009	99	59	383	0.4367	645.8	2.1015	97.9
2010	99	55	224	0.4814	632.1	1.8413	74.5
Mean	97.9	60.4		0.3991	640.1	1.8686	91.4
SD	2.0	14.4		0.0449	97.4	0.1689	13.9
N	10	10		10	10	10	10

Males	Individual Sperm Motility and Counts Terminal Sacrifice						Appendix O
Animal Number	Right vas deferens			Right Cauda Epididymis		Right Testis	
	Motile sperm (%)	Progressively motile sperm (%)	Number of Sperm Analyzed	Weight (g)	Sperm count (millions/g)	Weight (g)	Spermatid count (millions/g)
Group 3 – 17 mg Mo/kg bw/day							
3001	100	64	225	0.3345	635.8	1.8641	79.8
3002	97	72	288	0.4108	558.0	1.7202	69.2
3003	99	72	355	0.4229	575.1	1.7143	97.3
3011	99	72	274	0.4079	663.5	1.8487	104.3
3005	96	77	220	0.4073	492.9	1.6283	85.8
3006	98	65	258	0.3496	845.2	1.7869	100.6
3007	99	66	241	0.3429	718.3	1.7199	117.3
3008	96	61	302	0.3895	899.4	1.6820	70.0
3009	97	50	220	0.4151	401.4	1.9266	107.4
3010	99	57	230	0.4508	700.2	2.0772	62.3
Mean	98.0	65.6		0.3931	649.0	1.7968	89.4
SD	1.4	8.1		0.0384	152.2	0.1346	18.7
N	10	10		10	10	10	10

Males	Individual Sperm Motility and Counts Terminal Sacrifice						Appendix O
Animal Number	Right vas deferens			Right Cauda Epididymis		Right Testis	
	Motile sperm (%)	Progressively motile sperm (%)	Number of Sperm Analyzed	Weight (g)	Sperm count (millions/g)	Weight (g)	Spermatid count (millions/g)
Group 4 – 60 mg Mo/kg bw/day							
4001	99	57	267	0.4307	708.9	1.6253	81.2
4002	98	63	295	0.3636	414.1	1.8182	81.8
4003	98	56	214	0.3434	657.0	1.6395	100.2
4004	99	66	298	0.3241	514.1	1.7551	98.8
4005	97	55	231	0.4000	613.2	1.5669	85.9
4006	98	70	341	0.3698	625.5	1.9108	79.9
4007	99	58	405	0.3566	330.9	1.6271	116.9
4021	95	49	222	0.4072	550.3	1.8112	66.4
4009	99	51	226	0.3629	447.7	1.7306	77.7
4010	99	65	240	0.3841	347.6	1.9624	58.0
Mean	98.1	59.0		0.3742	520.9	1.7447	84.7
SD	1.3	6.8		0.0318	132.1	0.1316	17.1
N	10	10		10	10	10	10

Males	Individual Sperm Motility and Counts Recovery Sacrifice						Appendix O
Animal Number	Right vas deferens			Right Cauda Epididymis		Right Testis	
	Motile sperm (%)	Progressively motile sperm (%)	Number of Sperm Analyzed	Weight (g)	Sperm count (millions/g)	Weight (g)	Spermatid count (millions/g)
Group 1 – 0 mg Mo/kg bw/day							
1011	97	60	300	0.4194	582.4	1.1064	100.6
1012	97	71	275	0.3843	421.5	1.6736	74.2
1013	99	68	245	0.3410	590.3	1.8727	75.3
1014	96	69	300	0.3986	519.3	2.0126	69.4
1015	99	69	296	0.3296	511.8	1.8529	83.1
1016	96	56	278	0.4304	547.0	1.8117	70.0
1017	98	55	278	0.3875	904.1	1.7780	64.8
1018	99	78	280	0.3869	541.7	1.8343	50.8
1019	98	45	293	0.4018	540.9	1.7754	45.9
1020	100	63	401	0.4420	558.4	2.2442	68.0
Mean	97.9	63.4		0.3922	571.7	1.7962	70.2
SD	1.4	9.6		0.0357	125.8	0.2887	15.4
N	10	10		10	10	10	10

Males	Individual Sperm Motility and Counts Recovery Sacrifice						Appendix O
Animal Number	Right vas deferens			Right Cauda Epididymis		Right Testis	
	Motile sperm (%)	Progressively motile sperm (%)	Number of Sperm Analyzed	Weight (g)	Sperm count (millions/g)	Weight (g)	Spermatid count (millions/g)
Group 4 – 60 mg Mo/kg bw/day							
4011	96	48	314	0.3781	678.8	1.6711	62.7
4012	92	47	310	0.3777	617.9	1.6769	82.5
4013	99	50	259	0.4174	664.5	1.7877	67.3
4014	98	50	251	0.3674	521.1	1.6396	92.3
4015	96	60	285	0.3554	968.3	1.6951	76.3
4017	99	74	262	0.3719	734.7	1.6729	71.9
4018	97	51	340	0.4392	525.5	1.9739	97.7
4019	99	82	327	0.3536	996.6	1.7256	96.0
4020	100	53	232	0.3829	506.8	1.6677	80.7
Mean	97.3	57.2		0.3826	690.5	1.7234	80.8
SD	2.4	12.5		0.0283	183.2	0.1032	12.6
N	9	9		9	9	9	9

Males		Individual Sperm Morphology Data Terminal Sacrifice										Appendix O	
Animal Number	No. of Sperm Examined	Normal		Decapitate		Head Abnormal		Neck Abnormal		Tail Abnormal		Mid Tail Blob	
		actual	% total	actual	% total	actual	% total	actual	% total	actual	% total	actual	% total
Group 1 – 0 mg Mo/kg bw/day													
1001	200	198	99.0	1	0.5	0	0.0	0	0.0	1	0.5	0	0.0
1002	200	186	93.0	2	1.0	4	2.0	0	0.0	8	4.0	0	0.0
1003	200	189	94.5	1	0.5	0	0.0	0	0.0	11	5.5	0	0.0
1004	200	192	96.0	3	1.5	0	0.0	1	0.5	3	1.5	1	0.5
1005	200	192	96.0	0	0.0	1	0.5	1	0.50	4	2.0	2	1.0
1006	200	196	98.0	1	0.5	1	0.5	0	0.0	2	1.0	0	0.0
1007	IS												
1021	200	185	92.5	5	2.5	0	0.0	0	0.0	10	5.0	0	0.0
1009	200	191	95.5	2	1.0	1	0.5	0	0.0	6	3.0	0	0.0
1010	200	195	97.5	2	1.0	1	0.5	0	0.0	2	1.0	0	0.0
	Mean	191.6	95.8	1.9	0.9	0.9	0.4	0.2	0.1	5.2	2.6	0.3	0.2
	SD	4.4	2.2	1.5	0.7	1.3	0.6	0.4	0.2	3.7	1.9	0.7	0.4
	N	9	9	9	9	9	9	9	9	9	9	9	9

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IS = Insufficient sperm for analysis.









Males		Individual Sperm Morphology Data Recovery Sacrifice										Appendix O	
Animal Number	No. of Sperm Examined	Normal		Decapitate		Head Abnormal		Neck Abnormal		Tail Abnormal		Mid Tail Blob	
		actual	% total	actual	% total	actual	% total	actual	% total	actual	% total	actual	% total
Group 1 – 0 mg Mo/kg bw/day													
1011	IS												
1012	200	196	98.0	1	0.5	1	0.5	0	0.0	1	0.5	1	0.5
1013	200	196	98.0	1	0.5	1	0.5	0	0.0	1	0.5	1	0.5
1014	200	199	99.5	0	0.0	0	0.0	0	0.0	0	0.0	1	0.5
1015	200	192	96.0	1	0.5	0	0.0	2	1.0	5	2.5	0	0.0
1016	200	195	97.5	1	0.5	1	0.5	1	0.5	2	1.0	0	0.0
1017	200	197	98.5	0	0.0	1	0.5	0	0.0	2	1.0	0	0.0
1018	200	195	97.5	0	0.0	0	0.0	2	1.0	3	1.5	0	0.0
1019	200	193	96.5	1	0.5	2	1.0	0	0.0	1	0.5	3	1.5
1020	200	192	96.0	2	1.0	1	0.5	1	0.5	5	2.5	0	0.0
	Mean	195.0	97.5	0.8	0.4	0.8	0.4	0.7	0.3	2.2	1.1	0.7	0.3
	SD	2.3	1.2	0.7	0.3	0.7	0.3	0.9	0.4	1.8	0.9	1.0	0.5
	N	9	9	9	9	9	9	9	9	9	9	9	9

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IS = Insufficient sperm for analysis.



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## 1. ANATOMIC PATHOLOGY

All animals from the dosing and recovery phases were examined grossly for macroscopic abnormalities at necropsy. All protocol specified tissues were examined microscopically from the controls and high dose (60 mg Mo/kg bw/day) groups at the end of dosing. Following this examination, the kidneys from females and the adrenals from males were identified as potential target tissues. Therefore, the adrenals from all males and the kidneys from all females administered 5 and 17 mg Mo/kg bw/day (end of dosing phase) were examined. In addition, the adrenals from males and kidneys from females in the control and 60 mg Mo/kg bw/day recovery phase were examined.

### 1.1. UNSCHEDULED DEATHS

One male (#4016) administered 60 mg Mo/kg bw/day and assigned to the recovery phase, was found dead on Day 47 of the study. There were no macroscopic or microscopic findings to explain the cause of death. In the absence of any other mortality or clinical signs in other test substance treated animals, this single death is considered incidental and unrelated to test substance administration.

### 1.2. MACROSCOPIC

There were no macroscopic findings related to administration of sodium molybdate dihydrate. Macroscopic findings were sporadic and showed no relationship to dose. They were considered incidental and unrelated to test substance administration.

### 1.3. MICROSCOPIC

#### Dosing phase

Microscopic findings considered to be related to test-substance administration were present in the kidneys of females administered 60 mg Mo/kg bw/day. Two females from the 60 mg Mo/kg bw/day dose group showed slight diffuse hyperplasia of the proximal tubules in the kidney. Although the finding was only present in two test substance treated rats, it is uncommon as a

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background finding in this age of animal and is therefore considered test-substance related. It is possible that the elevated concentrations of copper in the kidneys (see section 3.10) may play some role in the histopathological changes in the kidneys among the high dose females.

There were no test substance related changes in the male or female reproductive tissues (testes, epididymides, prostate, seminal vesicles, ovaries, uterus or vagina). Only 1 rat had testicular tubular degeneration/atrophy (minimal) and that was a control animal. In females, 4 controls and 4 60 mg Mo/kg bw/day rats had atrophic changes in the ovaries, and 2 rats in each of these 2 groups had ovarian cysts. These changes reflect the beginning of reproductive senescence in this age of animal.

### **Incidental Findings**

Compared with the controls, there was an increased incidence of 'minimal' and 'slight' vacuolation in the cells of the zona fasciculata in the adrenal cortex of males administered 60 mg Mo/kg bw/day. Further examination of adrenals from males in the intermediate dose groups showed no dose relationship for this finding. Increased cortical vacuolation of the adrenal is a relatively common background finding in rats that generally reflects normal but variable physiological activity. The increased incidence of the finding in the 60 and 5 mg Mo/kg bw/day males is considered incidental and unrelated to test-substance administration.

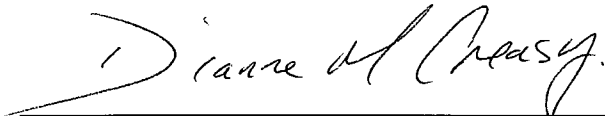
All other recorded microscopic findings were considered incidental and unrelated to administration of sodium molybdate dihydrate. They occurred at similar incidences in the control and test substance treated groups or they were sporadic with no relationship to dose.




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**Recovery Phase**

The finding of proximal tubule hyperplasia in the kidneys of females administered 60 mg Mo/kg bw/day was not observed in any of the animals following a 60 day recovery period.

  
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Dianne Creasy, PhD, DipRCPath (Tox), FRCPath.  
Pathologist

  
\_\_\_\_\_  
Date

	Individual Animal Gross and Microscopic Observations Preface	Appendix P
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**Key to Abbreviations**

BALT	=	bronchus associated lymphoid tissue
GI	=	Gland
LN	=	Lymph Node
P. Patches/GALT	=	Peyers Patches/gut-associated lymphoid tissue
SC	=	Spinal Cord
w/	=	with

**Corresponding expected dose levels for each group were as follows:**

Group 1	-	0 mg Mo/kg bw/day
Group 2	-	5 mg Mo/kg bw/day
Group 3	-	17 mg Mo/kg bw/day
Group 4	-	60 mg Mo/kg bw/day

**Notes**

1. Unless otherwise specified in a histopathology note, the organ/tissue examined was the required (routine) section.

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

PHASE: Dosing phase	STATUS: Final phase sacrifice	ANIMAL: 1001
PHASE DAY OF DEATH: 92	SEX: Male	GROUP: 1
Tissue	Gross Observations/Comments	Microscopic Observations/Comments
Pituitary . . . . .	No gross observations on tissue.	CYST(S), Present.
Parathyroid . . . . .	No gross observations on tissue.	Tissue is unremarkable; one-of-pair missing.

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:

Adrenal Glands	Aorta	Sternal Marrow	Femoral Marrow	Brain
Sternum	Distal Femur	Cecum	Colon	Duodenum
Epididymides	Esophagus	Eyes	Harderian G1	Heart
Ileum	Jejunum	Kidneys	Lacrimal gland	Liver
Mesenteric LN	Mediastinal LN	Lungs	Mammary protocol	Nerve Sciatic
Pancreas	P. Patches/GALT	Prostate	Cervical SC	Thoracic SC
Lumbar SC	Salivary Gland	Skin protocol	Muscle protocol	Spleen
Stomach	Seminal Vesicles	Testes	Thyroid	Thymus
Trachea	Urinary Bladder			

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Tissue	Gross Observations/Comments	Microscopic Observations/Comments
Harderian Gl . . . . .	No gross observations on tissue.	INFLAMMATORY INFILTRATE: MONONUCLEAR CELL, Minimal.
Heart . . . . .	No gross observations on tissue.	MYOFIBER DEGENERATION WITH MONONUCLEAR CELL INFILTRATE, Minimal.
Parathyroid . . . . .	No gross observations on tissue.	Tissue is unremarkable; one-of-pair missing.

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:

Adrenal Glands	Aorta	Sternal Marrow	Femoral Marrow	Brain
Sternum	Distal Femur	Cecum	Colon	Duodenum
Epididymides	Esophagus	Eyes	Ileum	Jejunum
Kidneys	Lacrimal gland	Liver	Mesenteric LN	Mediastinal LN
Lungs	Mammary protocol	Nerve Sciatic	Pancreas	Pituitary
P. Patches/GALT	Cervical SC	Thoracic SC	Lumbar SC	Salivary Gland
Skin protocol	Muscle protocol	Spleen	Stomach	Seminal Vesicles
Testes	Thyroid	Thymus	Trachea	Urinary Bladder

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PHASE: Dosing phase          STATUS: Final phase sacrifice    ANIMAL: 1003
PHASE DAY OF DEATH: 92      SEX: Male                        GROUP: 1
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Tissue	Gross Observations/Comments	Microscopic Observations/Comments
Lacrimal gland . . . .	No gross observations on tissue.	INFLAMMATORY INFILTRATE: MONONUCLEAR CELL, Minimal.
Parathyroid . . . . .	No gross observations on tissue.	Tissue is missing.

Tissues without comment under Gross Observations were within normal limits at necropsy.

The following tissues were unremarkable microscopically:

Adrenal Glands	Aorta	Sternal Marrow	Femoral Marrow	Brain
Sternum	Distal Femur	Cecum	Colon	Duodenum
Epididymides	Esophagus	Eyes	Harderian Gl	Heart
Ileum	Jejunum	Kidneys	Liver	Mesenteric LN
Mediastinal LN	Lungs	Mammary protocol	Nerve Sciatic	Pancreas
Pituitary	P. Patches/GALT	Prostate	Cervical SC	Thoracic SC
Lumbar SC	Salivary Gland	Skin protocol	Muscle protocol	Spleen
Stomach	Seminal Vesicles	Testes	Thyroid	Thymus
Trachea	Urinary Bladder			

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
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Individual Animal Gross and Microscopic Observations

PHASE: Dosing phase	STATUS: Final phase sacrifice	ANIMAL: 1004
PHASE DAY OF DEATH: 92	SEX: Male	GROUP: 1
Tissue	Gross Observations/Comments	Microscopic Observations/Comments
Kidneys . . . . .	Cyst, Left, Clear, Fluid, 0.2 - 0.5 cm	Examined; 1 correlation found: TUBULAR CYST(S), Present, UNILATERAL.  INFLAMMATORY INFILTRATE: MONONUCLEAR CELL, INTERSTITIAL, Slight, Focal, UNILATERAL.
Lungs . . . . .	No gross observations on tissue.	INCREASED BALD, Minimal.
Prostate . . . . .	No gross observations on tissue.	INFLAMMATORY CELL INFILTRATE: MONONUCLEAR CELL, Minimal.
Parathyroid . . . . .	No gross observations on tissue.	Tissue is unremarkable; one-of-pair missing.

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:

Adrenal Glands	Aorta	Sternal Marrow	Femoral Marrow	Brain
Sternum	Distal Femur	Cecum	Colon	Duodenum
Epididymides	Esophagus	Eyes	Harderian Gl	Heart
Ileum	Jejunum	Lacrimal gland	Liver	Mesenteric LN
Mediastinal LN	Mammary protocol	Nerve Sciatic	Pancreas	Pituitary
P. Patches/GALT	Cervical SC	Thoracic SC	Lumbar SC	Salivary Gland
Skin protocol	Muscle protocol	Spleen	Stomach	Seminal Vesicles
Testes	Thyroid	Thymus	Trachea	Urinary Bladder

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Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
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Individual Animal Gross and Microscopic Observations

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          PHASE: Dosing phase          STATUS: Final phase sacrifice          ANIMAL: 1005
PHASE DAY OF DEATH: 92                SEX: Male                               GROUP: 1
-----
Tissue          Gross Observations/Comments          Microscopic Observations/Comments
-----
Harderian Gl   . . . . . No gross observations on tissue.
                                           INFLAMMATORY INFILTRATE: MONONUCLEAR CELL,
                                           Minimal.

Kidneys . . . . . No gross observations on tissue.
                                           BASOPHILIC TUBULES, Minimal.

Lacrimal gland . . . . . No gross observations on tissue.
                                           INFLAMMATORY INFILTRATE: MONONUCLEAR CELL,
                                           Minimal.

Mediastinal LN . . . . . No gross observations on tissue.
                                           ERYTHROCYTOSIS/ERYTHROPHAGOCYTOSIS, Slight.

Prostate . . . . . No gross observations on tissue.
                                           INFLAMMATORY CELL INFILTRATE: MONONUCLEAR
                                           CELL, Minimal.

Parathyroid . . . . . No gross observations on tissue.
                                           Tissue is unremarkable; one-of-pair
                                           missing.

Testes . . . . . No gross observations on tissue.
                                           TUBULAR DEGENERATION/ATROPHY, Minimal.

```

Tissues without comment under Gross Observations were within normal limits at necropsy.

The following tissues were unremarkable microscopically:

Adrenal Glands    Aorta                    Sternal Marrow    Femoral Marrow    Brain

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Individual Animal Gross and Microscopic Observations

-----  
 PHASE: Dosing phase                               STATUS: Final phase sacrifice                               ANIMAL: 1005  
 PHASE DAY OF DEATH: 92                               SEX: Male                               GROUP: 1  
 -----

Tissue	Gross Observations/Comments	Microscopic Observations/Comments
-----		

Tissues without comment under Gross Observations were within normal limits at necropsy.

The following tissues were unremarkable microscopically:

Sternum	Distal Femur	Cecum	Colon	Duodenum
Epididymides	Esophagus	Eyes	Heart	Ileum
Jejunum	Liver	Mesenteric LN	Lungs	Mammary protocol
Nerve Sciatic	Pancreas	Pituitary	P. Patches/GALT	Cervical SC
Thoracic SC	Lumbar SC	Salivary Gland	Skin protocol	Muscle protocol
Spleen	Stomach	Seminal Vesicles	Thyroid	Thymus
Trachea	Urinary Bladder			



Sodium Molybdate Dihydrate: A 90-Day Oral Dietary Administration Study in Rats (GLP) Individual Animal Gross and Microscopic Observations

PHASE: Dosing phase STATUS: Final phase sacrifice ANIMAL: 1006 PHASE DAY OF DEATH: 92 SEX: Male GROUP: 1

Table with 3 columns: Tissue, Gross Observations/Comments, Microscopic Observations/Comments. Rows include Kidneys and Parathyroid.

Tissues without comment under Gross Observations were within normal limits at necropsy. The following tissues were unremarkable microscopically:

- List of tissues: Adrenal Glands, Aorta, Sternal Marrow, Femoral Marrow, Brain, Sternum, Distal Femur, Cecum, Colon, Duodenum, Epididymides, Esophagus, Eyes, Harderian G1, Heart, Ileum, Jejunum, Lacrimal gland, Liver, Mesenteric LN, Mediastinal LN, Lungs, Mammary protocol, Nerve Sciatic, Pancreas, Pituitary, P. Patches/GALT, Prostate, Cervical SC, Thoracic SC, Lumbar SC, Salivary Gland, Skin protocol, Muscle protocol, Spleen, Stomach, Seminal Vesicles, Testes, Thyroid, Thymus, Trachea, Urinary Bladder.

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
 Administration Study in Rats (GLP)  
 Individual Animal Gross and Microscopic Observations

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 PHASE: Dosing phase                                STATUS: Final phase sacrifice                                ANIMAL: 1007  
 PHASE DAY OF DEATH: 92                                SEX: Male                                GROUP: 1  
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 Tissue                                Gross Observations/Comments                                Microscopic Observations/Comments  
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Tissues without comment under Gross Observations were within normal limits at necropsy.  
 The following tissues were unremarkable microscopically:

Adrenal Glands	Aorta	Sternal Marrow	Femoral Marrow	Brain
Sternum	Distal Femur	Cecum	Colon	Duodenum
Epididymides	Esophagus	Eyes	Harderian G1	Heart
Ileum	Jejunum	Kidneys	Lacrimal gland	Liver
Mesenteric LN	Mediastinal LN	Lungs	Mammary protocol	Nerve Sciatic
Pancreas	Pituitary	P. Patches/GALT	Prostate	Parathyroid
Cervical SC	Thoracic SC	Lumbar SC	Salivary Gland	Skin protocol
Muscle protocol	Spleen	Stomach	Seminal Vesicles	Testes
Thyroid	Thymus	Trachea	Urinary Bladder	

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary Administration Study in Rats (GLP) Individual Animal Gross and Microscopic Observations

PHASE: Dosing phase STATUS: Final phase sacrifice ANIMAL: 1021 PHASE DAY OF DEATH: 92 SEX: Male GROUP: 1

Table with 3 columns: Tissue, Gross Observations/Comments, Microscopic Observations/Comments. Rows include Adrenal Glands, Kidneys, and Parathyroid.

Tissues without comment under Gross Observations were within normal limits at necropsy.

The following tissues were unremarkable microscopically:

- List of tissues: Aorta, Sternal Marrow, Femoral Marrow, Brain, Sternum, Distal Femur, Cecum, Colon, Duodenum, Epididymides, Esophagus, Eyes, Harderian G1, Heart, Ileum, Jejunum, Lacrimal gland, Liver, Mesenteric LN, Mediastinal LN, Lungs, Mammary protocol, Nerve Sciatic, Pancreas, Pituitary, P. Patches/GALT, Prostate, Cervical SC, Thoracic SC, Lumbar SC, Salivary Gland, Skin protocol, Muscle protocol, Spleen, Stomach, Seminal Vesicles, Testes, Thyroid, Thymus, Trachea, Urinary Bladder.

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary Administration Study in Rats (GLP) Individual Animal Gross and Microscopic Observations

PHASE: Dosing phase STATUS: Final phase sacrifice ANIMAL: 1009 PHASE DAY OF DEATH: 92 SEX: Male GROUP: 1

Table with 3 columns: Tissue, Gross Observations/Comments, Microscopic Observations/Comments. Rows include Eyes, Heart, Mammary protocol, Pituitary, and Parathyroid.

Tissues without comment under Gross Observations were within normal limits at necropsy. The following tissues were unremarkable microscopically:

- List of tissues: Adrenal Glands, Aorta, Sternal Marrow, Femoral Marrow, Brain, Sternum, Distal Femur, Cecum, Colon, Duodenum, Epididymides, Esophagus, Harderian Gl, Ileum, Jejunum, Kidneys, Lacrimal gland, Liver, Mesenteric LN, Mediastinal LN, Lungs, Nerve Sciatic, Pancreas, P. Patches/GALT, Prostate, Cervical SC, Thoracic SC, Lumbar SC, Salivary Gland, Skin protocol, Muscle protocol, Spleen, Stomach, Seminal Vesicles, Testes, Thyroid, Thymus, Trachea, Urinary Bladder.

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

PHASE: Dosing phase	STATUS: Final phase sacrifice	ANIMAL: 1010
PHASE DAY OF DEATH: 92	SEX: Male	GROUP: 1
Tissue	Gross Observations/Comments	Microscopic Observations/Comments
Kidneys . . . . .	No gross observations on tissue.	BASOPHILIC TUBULES, Minimal.
Lungs . . . . .	No gross observations on tissue.	INCREASED BALT, Minimal.
Parathyroid . . . . .	No gross observations on tissue.	Tissue is unremarkable; one-of-pair missing.
Stomach . . . . .	No gross observations on tissue.	LIMITING RIDGE: EPITHELIUM-SQUAMOUS CELL HYPERPLASIA, Slight.

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:

Adrenal Glands	Aorta	Sternal Marrow	Femoral Marrow	Brain
Sternum	Distal Femur	Cecum	Colon	Duodenum
Epididymides	Esophagus	Eyes	Harderian Gl	Heart
Ileum	Jejunum	Lacrimal gland	Liver	Mesenteric LN
Mediastinal LN	Mammary protocol	Nerve Sciatic	Pancreas	Pituitary
P. Patches/GALT	Prostate	Cervical SC	Thoracic SC	Lumbar SC
Salivary Gland	Skin protocol	Muscle protocol	Spleen	Seminal Vesicles
Testes	Thyroid	Thymus	Trachea	Urinary Bladder

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Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

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PHASE: Recovery phase	STATUS: Final phase sacrifice	ANIMAL: 1011
PHASE DAY OF DEATH: 60	SEX: Male	GROUP: 1

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Tissue	Gross Observations/Comments	Microscopic Observations/Comments
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Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
    Adrenal Glands

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary Administration Study in Rats (GLP) Individual Animal Gross and Microscopic Observations

Tissue	Gross Observations/Comments	Microscopic Observations/Comments
PHASE: Recovery phase	STATUS: Final phase sacrifice	ANIMAL: 1012
PHASE DAY OF DEATH: 60	SEX: Male	GROUP: 1
Thymus . . . . .	Discolored, Left lobe, Red, Foci, </= 0.1 cm, Severe	No micropathology observations on tissue.

Tissues without comment under Gross Observations were within normal limits at necropsy. The following tissues were unremarkable microscopically: Adrenal Glands

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Individual Animal Gross and Microscopic Observations

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PHASE: Recovery phase                      STATUS: Final phase sacrifice                      ANIMAL: 1013  
PHASE DAY OF DEATH: 60                      SEX: Male                      GROUP: 1  
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Tissue                      Gross Observations/Comments                      Microscopic Observations/Comments  
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Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
    Adrenal Glands



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 Individual Animal Gross and Microscopic Observations

PHASE: Recovery phase	STATUS: Final phase sacrifice	ANIMAL: 1014
PHASE DAY OF DEATH: 60	SEX: Male	GROUP: 1
Tissue	Gross Observations/Comments	Microscopic Observations/Comments
Adrenal Glands . . . .	No gross observations on tissue.	INCREASED CORTICAL VACUOLATION, Minimal.

Tissues without comment under Gross Observations were within normal limits at necropsy.  
 The following tissues were unremarkable microscopically:  
 No tissues to list.

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

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PHASE: Recovery phase	STATUS: Final phase sacrifice	ANIMAL: 1015
PHASE DAY OF DEATH: 60	SEX: Male	GROUP: 1
-----		
Tissue	Gross Observations/Comments	Microscopic Observations/Comments
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Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
Adrenal Glands

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Individual Animal Gross and Microscopic Observations

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PHASE: Recovery phase	STATUS: Final phase sacrifice	ANIMAL: 1016
PHASE DAY OF DEATH: 60	SEX: Male	GROUP: 1

---

Tissue	Gross Observations/Comments	Microscopic Observations/Comments
Adrenal Glands . . . .	No gross observations on tissue.	INCREASED CORTICAL VACUOLATION, Slight.

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Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
No tissues to list.

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Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

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PHASE: Recovery phase	STATUS: Final phase sacrifice	ANIMAL: 1017
PHASE DAY OF DEATH: 60	SEX: Male	GROUP: 1
-----		
Tissue	Gross Observations/Comments	Microscopic Observations/Comments
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Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
Adrenal Glands

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Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

PHASE: Recovery phase	STATUS: Final phase sacrifice	ANIMAL: 1018
PHASE DAY OF DEATH: 60	SEX: Male	GROUP: 1
Tissue	Gross Observations/Comments	Microscopic Observations/Comments

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
Adrenal Glands

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Individual Animal Gross and Microscopic Observations

Tissue	Gross Observations/Comments	Microscopic Observations/Comments
Adrenal Glands . . . .	No gross observations on tissue.	INCREASED CORTICAL VACUOLATION, Slight.

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
No tissues to list.

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Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
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PHASE: Recovery phase	STATUS: Final phase sacrifice	ANIMAL: 1020
PHASE DAY OF DEATH: 60	SEX: Male	GROUP: 1
Tissue	Gross Observations/Comments	Microscopic Observations/Comments

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
Adrenal Glands

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Individual Animal Gross and Microscopic Observations

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PHASE: Dosing phase	STATUS: Final phase sacrifice	ANIMAL: 2001
PHASE DAY OF DEATH: 92	SEX: Male	GROUP: 2

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Tissue	Gross Observations/Comments	Microscopic Observations/Comments
Lungs . . . . .	Discolored, Right diaphragmatic lobe, Red, Focus, < /= 0.1 cm, Moderate	No micropathology observations on tissue.

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
Adrenal Glands



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PHASE: Dosing phase	STATUS: Final phase sacrifice	ANIMAL: 2002
PHASE DAY OF DEATH: 92	SEX: Male	GROUP: 2
Tissue	Gross Observations/Comments	Microscopic Observations/Comments
Adrenal Glands . . . .	No gross observations on tissue.	INCREASED CORTICAL VACUOLATION, Slight.

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
No tissues to list.

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Individual Animal Gross and Microscopic Observations

PHASE: Dosing phase	STATUS: Final phase sacrifice	ANIMAL: 2003
PHASE DAY OF DEATH: 92	SEX: Male	GROUP: 2
Tissue	Gross Observations/Comments	Microscopic Observations/Comments
Adrenal Glands . . . .	No gross observations on tissue.	INCREASED CORTICAL VACUOLATION, Slight.

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
No tissues to list.

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Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
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Individual Animal Gross and Microscopic Observations

PHASE: Dosing phase	STATUS: Final phase sacrifice	ANIMAL: 2004
PHASE DAY OF DEATH: 92	SEX: Male	GROUP: 2
Tissue	Gross Observations/Comments	Microscopic Observations/Comments
General Comments . . .	Staining on Fur, Periocular, Red, Bilateral, Moderate	No micropathology observations on tissue.

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
Adrenal Glands

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Individual Animal Gross and Microscopic Observations

Tissue	Gross Observations/Comments	Microscopic Observations/Comments
Adrenal Glands . . . .	No gross observations on tissue.	INCREASED CORTICAL VACUOLATION, Minimal.

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
No tissues to list.

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Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

Tissue	Gross Observations/Comments	Microscopic Observations/Comments
Adrenal Glands . . . .	No gross observations on tissue.	INCREASED CORTICAL VACUOLATION, Slight.

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
No tissues to list.

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Individual Animal Gross and Microscopic Observations

PHASE: Dosing phase	STATUS: Final phase sacrifice	ANIMAL: 2007
PHASE DAY OF DEATH: 92	SEX: Male	GROUP: 2
Tissue	Gross Observations/Comments	Microscopic Observations/Comments

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
Adrenal Glands

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Individual Animal Gross and Microscopic Observations

Tissue	Gross Observations/Comments	Microscopic Observations/Comments
Epididymides . . . . .	Small, Left, Moderate	No micropathology observations on tissue.
Testes . . . . .	Small, Left, Moderate	No micropathology observations on tissue.

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
Adrenal Glands

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PHASE: Dosing phase	STATUS: Final phase sacrifice	ANIMAL: 2009
PHASE DAY OF DEATH: 92	SEX: Male	GROUP: 2
Tissue	Gross Observations/Comments	Microscopic Observations/Comments

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
Adrenal Glands



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Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

PHASE: Dosing phase	STATUS: Final phase sacrifice	ANIMAL: 2010
PHASE DAY OF DEATH: 92	SEX: Male	GROUP: 2
Tissue	Gross Observations/Comments	Microscopic Observations/Comments
Adrenal Glands . . . .	No gross observations on tissue.	INCREASED CORTICAL VACUOLATION, Minimal.

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
No tissues to list.

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Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

PHASE: Dosing phase	STATUS: Final phase sacrifice	ANIMAL: 3001
PHASE DAY OF DEATH: 92	SEX: Male	GROUP: 3
Tissue	Gross Observations/Comments	Microscopic Observations/Comments
Kidneys . . . . .	Dilated Pelvis, Right, Moderate	No micropathology observations on tissue.

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
Adrenal Glands

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Individual Animal Gross and Microscopic Observations

PHASE: Dosing phase	STATUS: Final phase sacrifice	ANIMAL: 3002
PHASE DAY OF DEATH: 92	SEX: Male	GROUP: 3
Tissue	Gross Observations/Comments	Microscopic Observations/Comments

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
Adrenal Glands







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Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
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PHASE: Dosing phase	STATUS: Final phase sacrifice	ANIMAL: 3006
PHASE DAY OF DEATH: 92	SEX: Male	GROUP: 3
Tissue	Gross Observations/Comments	Microscopic Observations/Comments

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
Adrenal Glands

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Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

PHASE: Dosing phase	STATUS: Final phase sacrifice	ANIMAL: 3007
PHASE DAY OF DEATH: 92	SEX: Male	GROUP: 3
Tissue	Gross Observations/Comments	Microscopic Observations/Comments

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
Adrenal Glands



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Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

PHASE: Dosing phase	STATUS: Final phase sacrifice	ANIMAL: 3008
PHASE DAY OF DEATH: 92	SEX: Male	GROUP: 3
Tissue	Gross Observations/Comments	Microscopic Observations/Comments

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
Adrenal Glands

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Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
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Individual Animal Gross and Microscopic Observations

PHASE: Dosing phase	STATUS: Final phase sacrifice	ANIMAL: 3009
PHASE DAY OF DEATH: 92	SEX: Male	GROUP: 3

Tissue	Gross Observations/Comments	Microscopic Observations/Comments
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Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
Adrenal Glands

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Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

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PHASE: Dosing phase	STATUS: Final phase sacrifice	ANIMAL: 3010
PHASE DAY OF DEATH: 92	SEX: Male	GROUP: 3

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Tissue	Gross Observations/Comments	Microscopic Observations/Comments
Adrenal Glands . . . .	No gross observations on tissue.	INCREASED CORTICAL VACUOLATION, Minimal.

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Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
No tissues to list.

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary Administration Study in Rats (GLP) Individual Animal Gross and Microscopic Observations

PHASE: Dosing phase STATUS: Final phase sacrifice ANIMAL: 4001 PHASE DAY OF DEATH: 92 SEX: Male GROUP: 4

Tissue Gross Observations/Comments Microscopic Observations/Comments

Adrenal Glands . . . . No gross observations on tissue. INCREASED CORTICAL VACUOLATION, Slight. Parathyroid . . . . . No gross observations on tissue. Tissue is unremarkable; one-of-pair missing.

Tissues without comment under Gross Observations were within normal limits at necropsy. The following tissues were unremarkable microscopically:

- Aorta Sternal Marrow Femoral Marrow Brain Sternum Distal Femur Cecum Colon Duodenum Epididymides Esophagus Eyes Harderian G1 Heart Ileum Jejunum Kidneys Lacrimal gland Liver Mesenteric LN Mediastinal LN Lungs Mammary protocol Nerve Sciatic Pancreas Pituitary P. Patches/GALT Prostate Cervical SC Thoracic SC Lumbar SC Salivary Gland Skin protocol Muscle protocol Spleen Stomach Seminal Vesicles Testes Thyroid Thymus Trachea Urinary Bladder

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary Administration Study in Rats (GLP) Individual Animal Gross and Microscopic Observations

PHASE: Dosing phase STATUS: Final phase sacrifice ANIMAL: 4002 PHASE DAY OF DEATH: 92 SEX: Male GROUP: 4

Table with 3 columns: Tissue, Gross Observations/Comments, and Microscopic Observations/Comments. Rows include Adrenal Glands, Liver, and Lungs with their respective observations.

Tissues without comment under Gross Observations were within normal limits at necropsy.

The following tissues were unremarkable microscopically:

- List of tissues: Aorta, Sternal Marrow, Femoral Marrow, Brain, Sternum, Distal Femur, Cecum, Colon, Duodenum, Epididymides, Esophagus, Eyes, Harderian Gl, Heart, Ileum, Jejunum, Kidneys, Lacrimal gland, Mesenteric LN, Mediastinal LN, Mammary protocol, Nerve Sciatic, Pancreas, Pituitary, P. Patches/GALT, Prostate, Parathyroid, Cervical SC, Thoracic SC, Lumbar SC, Salivary Gland, Skin protocol, Muscle protocol, Spleen, Stomach, Seminal Vesicles, Testes, Thyroid, Thymus, Trachea, Urinary Bladder.

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary Administration Study in Rats (GLP) Individual Animal Gross and Microscopic Observations

PHASE: Dosing phase STATUS: Final phase sacrifice ANIMAL: 4003 PHASE DAY OF DEATH: 92 SEX: Male GROUP: 4

Tissue Gross Observations/Comments Microscopic Observations/Comments

Adrenal Glands . . . . No gross observations on tissue. INCREASED CORTICAL VACUOLATION, Slight. Harderian Gl . . . . No gross observations on tissue. INFLAMMATORY INFILTRATE: MONONUCLEAR CELL, Slight. Mesenteric LN . . . . No gross observations on tissue. MAST CELLS: INCREASED, Slight. Prostate . . . . . No gross observations on tissue. INFLAMMATORY CELL INFILTRATE: MONONUCLEAR CELL, Minimal.

Tissues without comment under Gross Observations were within normal limits at necropsy. The following tissues were unremarkable microscopically:

- Aorta Sternal Marrow Femoral Marrow Brain Sternum Distal Femur Cecum Colon Duodenum Epididymides Esophagus Eyes Heart Ileum Jejunum Kidneys Lacrimal gland Liver Mediastinal LN Lungs Mammary protocol Nerve Sciatic Pancreas Pituitary P. Patches/GALT Parathyroid Cervical SC Thoracic SC Lumbar SC Salivary Gland Skin protocol Muscle protocol Spleen Stomach Seminal Vesicles Testes Thyroid Thymus Trachea Urinary Bladder

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary Administration Study in Rats (GLP) Individual Animal Gross and Microscopic Observations

PHASE: Dosing phase STATUS: Final phase sacrifice ANIMAL: 4004 PHASE DAY OF DEATH: 92 SEX: Male GROUP: 4

Table with 3 columns: Tissue, Gross Observations/Comments, Microscopic Observations/Comments. Rows include Adrenal Glands and Kidneys with corresponding observations.

Tissues without comment under Gross Observations were within normal limits at necropsy. The following tissues were unremarkable microscopically:

- List of tissues including Aorta, Distal Femur, Esophagus, Jejunum, Lungs, P. Patches/GALT, Lumbar SC, Stomach, Trachea, Sternal Marrow, Cecum, Eyes, Lacrimal gland, Mammary protocol, Prostate, Salivary Gland, Seminal Vesicles, Urinary Bladder, Femoral Marrow, Colon, Harderian G1, Liver, Nerve Sciatic, Parathyroid, Skin protocol, Testes, Brain, Duodenum, Heart, Mesenteric LN, Pancreas, Cervical SC, Muscle protocol, Thyroid, Sternum, Epididymides, Ileum, Mediastinal LN, Pituitary, Thoracic SC, Spleen, Thymus.





Sodium Molybdate Dihydrate: A 90-Day Oral Dietary Administration Study in Rats (GLP) Individual Animal Gross and Microscopic Observations

PHASE: Dosing phase STATUS: Final phase sacrifice ANIMAL: 4006 PHASE DAY OF DEATH: 92 SEX: Male GROUP: 4

Table with 3 columns: Tissue, Gross Observations/Comments, Microscopic Observations/Comments. Rows include Adrenal Glands and Kidneys with their respective observations.

Tissues without comment under Gross Observations were within normal limits at necropsy.

The following tissues were unremarkable microscopically:

- List of tissues: Aorta, Sternal Marrow, Femoral Marrow, Brain, Sternum, Distal Femur, Cecum, Colon, Duodenum, Epididymides, Esophagus, Eyes, Harderian Gl, Heart, Ileum, Jejunum, Lacrimal gland, Liver, Mesenteric LN, Mediastinal LN, Lungs, Mammary protocol, Nerve Sciatic, Pancreas, Pituitary, P. Patches/GALT, Prostate, Parathyroid, Cervical SC, Thoracic SC, Lumbar SC, Salivary Gland, Skin protocol, Muscle protocol, Spleen, Stomach, Seminal Vesicles, Testes, Thyroid, Thymus, Trachea, Urinary Bladder.

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Tissue	Gross Observations/Comments	Microscopic Observations/Comments
PHASE: Dosing phase	STATUS: Final phase sacrifice	ANIMAL: 4007
PHASE DAY OF DEATH: 92	SEX: Male	GROUP: 4
Eyes . . . . .	No gross observations on tissue.	RETINAL FOLDS, Present, UNILATERAL.
Prostate . . . . .	No gross observations on tissue.	INFLAMMATORY CELL INFILTRATE: MONONUCLEAR CELL, Minimal.
Parathyroid . . . . .	No gross observations on tissue.	Tissue is unremarkable; one-of-pair missing.

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:

Adrenal Glands	Aorta	Sternal Marrow	Femoral Marrow	Brain
Sternum	Distal Femur	Cecum	Colon	Duodenum
Epididymides	Esophagus	Harderian Gl	Heart	Ileum
Jejunum	Kidneys	Lacrimal gland	Liver	Mesenteric LN
Mediastinal LN	Lungs	Mammary protocol	Nerve Sciatic	Pancreas
Pituitary	P. Patches/GALT	Cervical SC	Thoracic SC	Lumbar SC
Salivary Gland	Skin protocol	Muscle protocol	Spleen	Stomach
Seminal Vesicles	Testes	Thyroid	Thymus	Trachea
Urinary Bladder				

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Sodium Molybdate Dihydrate: A 90-Day Oral Dietary Administration Study in Rats (GLP) Individual Animal Gross and Microscopic Observations

PHASE: Dosing phase STATUS: Final phase sacrifice ANIMAL: 4021 PHASE DAY OF DEATH: 92 SEX: Male GROUP: 4

Table with 3 columns: Tissue, Gross Observations/Comments, and Microscopic Observations/Comments. Rows include Adrenal Glands, Kidneys, Lungs, Mammary protocol, Parathyroid, and Stomach with detailed microscopic findings.

Tissues without comment under Gross Observations were within normal limits at necropsy.

The following tissues were unremarkable microscopically:

- Aorta, Sternal Marrow, Femoral Marrow, Brain, Sternum, Distal Femur, Cecum, Colon, Duodenum, Epididymides

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

PHASE: Dosing phase		STATUS: Final phase sacrifice		ANIMAL: 4021	
PHASE DAY OF DEATH: 92		SEX: Male		GROUP: 4	
Tissue	Gross Observations/Comments		Microscopic Observations/Comments		
Esophagus	Eyes	Harderian Gl	Heart	Ileum	
Jejunum	Lacrimal gland	Liver	Mesenteric LN	Mediastinal LN	
Nerve Sciatic	Pancreas	Pituitary	P. Patches/GALT	Prostate	
Cervical SC	Thoracic SC	Lumbar SC	Salivary Gland	Skin protocol	
Muscle protocol	Spleen	Seminal Vesicles	Testes	Thyroid	
Thymus	Trachea	Urinary Bladder			

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Sodium Molybdate Dihydrate: A 90-Day Oral Dietary Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

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PHASE: Dosing phase	STATUS: Final phase sacrifice	ANIMAL: 4009
PHASE DAY OF DEATH: 92	SEX: Male	GROUP: 4

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Tissue	Gross Observations/Comments	Microscopic Observations/Comments
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Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:

Adrenal Glands	Aorta	Sternal Marrow	Femoral Marrow	Brain
Sternum	Distal Femur	Cecum	Colon	Duodenum
Epididymides	Esophagus	Eyes	Harderian Gl	Heart
Ileum	Jejunum	Kidneys	Lacrimal gland	Liver
Mesenteric LN	Mediastinal LN	Lungs	Mammary protocol	Nerve Sciatic
Pancreas	Pituitary	P. Patches/GALT	Prostate	Parathyroid
Cervical SC	Thoracic SC	Lumbar SC	Salivary Gland	Skin protocol
Muscle protocol	Spleen	Stomach	Seminal Vesicles	Testes
Thyroid	Thymus	Trachea	Urinary Bladder	

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

PHASE: Dosing phase	STATUS: Final phase sacrifice	ANIMAL: 4010
PHASE DAY OF DEATH: 92	SEX: Male	GROUP: 4

Tissue	Gross Observations/Comments	Microscopic Observations/Comments
P. Patches/GALT . . . .	No gross observations on tissue.	INCREASED SIZE/CELLULARITY, Slight.

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:

- |                |                |                  |                  |                 |
|----------------|----------------|------------------|------------------|-----------------|
| Adrenal Glands | Aorta          | Sternal Marrow   | Femoral Marrow   | Brain           |
| Sternum        | Distal Femur   | Cecum            | Colon            | Duodenum        |
| Epididymides   | Esophagus      | Eyes             | Harderian Gl     | Heart           |
| Ileum          | Jejunum        | Kidneys          | Lacrimal gland   | Liver           |
| Mesenteric LN  | Mediastinal LN | Lungs            | Mammary protocol | Nerve Sciatic   |
| Pancreas       | Pituitary      | Prostate         | Parathyroid      | Cervical SC     |
| Thoracic SC    | Lumbar SC      | Salivary Gland   | Skin protocol    | Muscle protocol |
| Spleen         | Stomach        | Seminal Vesicles | Testes           | Thyroid         |
| Thymus         | Trachea        | Urinary Bladder  |                  |                 |

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Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

Tissue	Gross Observations/Comments	Microscopic Observations/Comments
Adrenal Glands . . . .	No gross observations on tissue.	INCREASED CORTICAL VACUOLATION, Minimal.

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
No tissues to list.

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Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

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      PHASE: Recovery phase           STATUS: Final phase sacrifice       ANIMAL: 4012
PHASE DAY OF DEATH: 60               SEX: Male                              GROUP: 4
-----
Tissue          Gross Observations/Comments      Microscopic Observations/Comments
-----
Adrenal Glands . . . . No gross observations on tissue.

                                          INCREASED CORTICAL VACUOLATION, Slight.
  
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Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
No tissues to list.



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Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

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PHASE: Recovery phase	STATUS: Final phase sacrifice	ANIMAL: 4013
PHASE DAY OF DEATH: 60	SEX: Male	GROUP: 4

---

Tissue	Gross Observations/Comments	Microscopic Observations/Comments
Adrenal Glands . . . .	No gross observations on tissue.	INCREASED CORTICAL VACUOLATION, Slight.

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Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
No tissues to list.

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Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

PHASE: Recovery phase	STATUS: Final phase sacrifice	ANIMAL: 4014
PHASE DAY OF DEATH: 60	SEX: Male	GROUP: 4
Tissue	Gross Observations/Comments	Microscopic Observations/Comments

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
Adrenal Glands

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Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

PHASE: Recovery phase	STATUS: Final phase sacrifice	ANIMAL: 4015
PHASE DAY OF DEATH: 60	SEX: Male	GROUP: 4
Tissue	Gross Observations/Comments	Microscopic Observations/Comments
Adrenal Glands . . . .	No gross observations on tissue.	INCREASED CORTICAL VACUOLATION, Slight.

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
No tissues to list.

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Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

PHASE: Dosing phase	STATUS: Found Dead	ANIMAL: 4016
PHASE DAY OF DEATH: 47	SEX: Male	GROUP: 4

Tissue	Gross Observations/Comments	Microscopic Observations/Comments
Kidneys . . . . .	No gross observations on tissue.	BASOPHILIC TUBULES, Minimal.
Lungs . . . . .	No gross observations on tissue.	INCREASED BALG, Minimal.
Parathyroid . . . . .	No gross observations on tissue.	Tissue is unremarkable; one-of-pair missing.
Muscle protocol . . . . .	No gross observations on tissue.	MYOFIBER DEGENERATION/REGENERATION, Minimal.

Tissues without comment under Gross Observations were within normal limits at necropsy.

The following tissues were unremarkable microscopically:

Adrenal Glands	Aorta	Sternal Marrow	Femoral Marrow	Brain
Sternum	Distal Femur	Cecum	Colon	Duodenum
Epididymides	Esophagus	Eyes	Harderian G1	Heart
Ileum	Jejunum	Lacrimal gland	Liver	Mesenteric LN
Mediastinal LN	Mammary protocol	Nerve Sciatic	Pancreas	Pituitary
P. Patches/GALT	Prostate	Cervical SC	Thoracic SC	Lumbar SC
Salivary Gland	Skin protocol	Spleen	Stomach	Seminal Vesicles
Testes	Thyroid	Thymus	Trachea	Urinary Bladder

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Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

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PHASE: Recovery phase                                      STATUS: Final phase sacrifice                                      ANIMAL: 4017  
PHASE DAY OF DEATH: 60                                      SEX: Male    GROUP: 4  
-----

Tissue                                      Gross Observations/Comments                                      Microscopic Observations/Comments  
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Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
    Adrenal Glands

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

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PHASE: Recovery phase                      STATUS: Final phase sacrifice                      ANIMAL: 4018  
PHASE DAY OF DEATH: 60                      SEX: Male                      GROUP: 4  
-----

Tissue	Gross Observations/Comments	Microscopic Observations/Comments
Adrenal Glands . . . .	No gross observations on tissue.	INCREASED CORTICAL VACUOLATION, Slight.

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
No tissues to list.

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Individual Animal Gross and Microscopic Observations

Tissue	Gross Observations/Comments	Microscopic Observations/Comments
Adrenal Glands . . . .	No gross observations on tissue.	INCREASED CORTICAL VACUOLATION, Minimal.

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
No tissues to list.

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
 Administration Study in Rats (GLP)  
 Individual Animal Gross and Microscopic Observations

PHASE: Recovery phase	STATUS: Final phase sacrifice	ANIMAL: 4020
PHASE DAY OF DEATH: 60	SEX: Male	GROUP: 4
Tissue	Gross Observations/Comments	Microscopic Observations/Comments
Adrenal Glands . . . .	No gross observations on tissue.	INCREASED CORTICAL VACUOLATION, Minimal.

Tissues without comment under Gross Observations were within normal limits at necropsy.  
 The following tissues were unremarkable microscopically:  
 No tissues to list.



Sodium Molybdate Dihydrate: A 90-Day Oral Dietary Administration Study in Rats (GLP) Individual Animal Gross and Microscopic Observations

PHASE: Dosing phase STATUS: Final phase sacrifice ANIMAL: 1501 PHASE DAY OF DEATH: 93 SEX: Female GROUP: 1

Table with 3 columns: Tissue, Gross Observations/Comments, Microscopic Observations/Comments. Rows include Kidneys, Lungs, and Ovaries with their respective observations.

Tissues without comment under Gross Observations were within normal limits at necropsy. The following tissues were unremarkable microscopically:

- List of tissues: Adrenal Glands, Aorta, Sternal Marrow, Femoral Marrow, Brain, Sternum, Distal Femur, Cecum, Colon, Duodenum, Esophagus, Eyes, Harderian Gl, Heart, Ileum, Jejunum, Lacrimal gland, Liver, Mesenteric LN, Mediastinal LN, Mammary protocol, Nerve Sciatic, Pancreas, Pituitary, P. Patches/GALT, Parathyroid, Cervical SC, Thoracic SC, Lumbar SC, Salivary Gland, Skin protocol, Muscle protocol, Spleen, Stomach, Thyroid, Thymus, Trachea, Urinary Bladder, Uterus w/ Cervix, Vagina

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
 Administration Study in Rats (GLP)  
 Individual Animal Gross and Microscopic Observations

PHASE: Dosing phase	STATUS: Final phase sacrifice	ANIMAL: 1502
PHASE DAY OF DEATH: 93	SEX: Female	GROUP: 1
Tissue	Gross Observations/Comments	Microscopic Observations/Comments

Tissues without comment under Gross Observations were within normal limits at necropsy.  
 The following tissues were unremarkable microscopically:

Adrenal Glands	Aorta	Sternal Marrow	Femoral Marrow	Brain
Sternum	Distal Femur	Cecum	Colon	Duodenum
Esophagus	Eyes	Harderian G1	Heart	Ileum
Jejunum	Kidneys	Lacrimal gland	Liver	Mesenteric LN
Mediastinal LN	Lungs	Mammary protocol	Nerve Sciatic	Ovaries
Pancreas	Pituitary	P. Patches/GALT	Parathyroid	Cervical SC
Thoracic SC	Lumbar SC	Salivary Gland	Skin protocol	Muscle protocol
Spleen	Stomach	Thyroid	Thymus	Trachea
Urinary Bladder	Uterus w/ Cervix	Vagina		

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary Administration Study in Rats (GLP) Individual Animal Gross and Microscopic Observations

PHASE: Dosing phase STATUS: Final phase sacrifice ANIMAL: 1503 PHASE DAY OF DEATH: 93 SEX: Female GROUP: 1

Table with 3 columns: Tissue, Gross Observations/Comments, Microscopic Observations/Comments. Rows include Kidneys, Ovaries, and Parathyroid with their respective observations.

Tissues without comment under Gross Observations were within normal limits at necropsy.

The following tissues were unremarkable microscopically:

Table listing unremarkable tissues: Adrenal Glands, Sternum, Esophagus, Jejunum, Lungs, P. Patches/GALT, Skin protocol, Thymus, Aorta, Distal Femur, Eyes, Lacrimal gland, Cervical SC, Muscle protocol, Trachea, Sternal Marrow, Cecum, Harderian Gl, Liver, Nerve Sciatic, Thoracic SC, Spleen, Urinary Bladder, Femoral Marrow, Colon, Heart, Mesenteric LN, Pancreas, Lumbar SC, Stomach, Uterus w/ Cervix, Brain, Duodenum, Ileum, Mediastinal LN, Pituitary, Salivary Gland, Thyroid, Vagina.

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
 Administration Study in Rats (GLP)  
 Individual Animal Gross and Microscopic Observations

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PHASE: Dosing phase           STATUS: Final phase sacrifice       ANIMAL: 1504
PHASE DAY OF DEATH: 93       SEX: Female                           GROUP: 1
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Tissue	Gross Observations/Comments	Microscopic Observations/Comments
Kidneys . . . . .	No gross observations on tissue.	MINERALIZED DEPOSITS, Minimal.
Liver . . . . .	No gross observations on tissue.	BILE DUCT HYPERPLASIA, Minimal.
Mediastinal LN . . . . .	No gross observations on tissue.	ERYTHROCYTOSIS/ERYTHROPHAGOCYTOSIS, Slight.

Tissues without comment under Gross Observations were within normal limits at necropsy.

The following tissues were unremarkable microscopically:

Adrenal Glands	Aorta	Sternal Marrow	Femoral Marrow	Brain
Sternum	Distal Femur	Cecum	Colon	Duodenum
Esophagus	Eyes	Harderian G1	Heart	Ileum
Jejunum	Lacrimal gland	Mesenteric LN	Lungs	Mammary protocol
Nerve Sciatic	Ovaries	Pancreas	Pituitary	P. Patches/GALT
Parathyroid	Cervical SC	Thoracic SC	Lumbar SC	Salivary Gland
Skin protocol	Muscle protocol	Spleen	Stomach	Thyroid
Thymus	Trachea	Urinary Bladder	Uterus w/ Cervix	Vagina

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

Tissue	Gross Observations/Comments	Microscopic Observations/Comments
Liver . . . . .	No gross observations on tissue.	BILE DUCT HYPERPLASIA, Minimal.
Mediastinal LN . . . . .	No gross observations on tissue.	ERYTHROCYTOSIS/ERYTHROPHAGOCYTOSIS, Minimal.
Parathyroid . . . . .	No gross observations on tissue.	Tissue is unremarkable; one-of-pair missing.

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:

Adrenal Glands	Aorta	Sternal Marrow	Femoral Marrow	Brain
Sternum	Distal Femur	Cecum	Colon	Duodenum
Esophagus	Eyes	Harderian Gl	Heart	Ileum
Jejunum	Kidneys	Lacrimal gland	Mesenteric LN	Lungs
Mammary protocol	Nerve Sciatic	Ovaries	Pancreas	Pituitary
P. Patches/GALT	Cervical SC	Thoracic SC	Lumbar SC	Salivary Gland
Skin protocol	Muscle protocol	Spleen	Stomach	Thyroid
Thymus	Trachea	Urinary Bladder	Uterus w/ Cervix	Vagina

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
 Administration Study in Rats (GLP)  
 Individual Animal Gross and Microscopic Observations

-----  
 PHASE: Dosing phase                                  STATUS: Final phase sacrifice                                  ANIMAL: 1506  
 PHASE DAY OF DEATH: 93                                  SEX: Female                                  GROUP: 1  
 -----

Tissue	Gross Observations/Comments	Microscopic Observations/Comments
Kidneys . . . . .	No gross observations on tissue.	MINERALIZED DEPOSITS, Minimal.

Tissues without comment under Gross Observations were within normal limits at necropsy.  
 The following tissues were unremarkable microscopically:

- |                  |                  |                |                 |                 |
|------------------|------------------|----------------|-----------------|-----------------|
| Adrenal Glands   | Aorta            | Sternal Marrow | Femoral Marrow  | Brain           |
| Sternum          | Distal Femur     | Cecum          | Colon           | Duodenum        |
| Esophagus        | Eyes             | Harderian G1   | Heart           | Ileum           |
| Jejunum          | Lacrimal gland   | Liver          | Mesenteric LN   | Mediastinal LN  |
| Lungs            | Mammary protocol | Nerve Sciatic  | Ovaries         | Pancreas        |
| Pituitary        | P. Patches/GALT  | Parathyroid    | Cervical SC     | Thoracic SC     |
| Lumbar SC        | Salivary Gland   | Skin protocol  | Muscle protocol | Spleen          |
| Stomach          | Thyroid          | Thymus         | Trachea         | Urinary Bladder |
| Uterus w/ Cervix | Vagina           |                |                 |                 |

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

Tissue	Gross Observations/Comments	Microscopic Observations/Comments
PHASE: Dosing phase	STATUS: Final phase sacrifice	ANIMAL: 1507
PHASE DAY OF DEATH: 93	SEX: Female	GROUP: 1
Mediastinal LN . . . .	No gross observations on tissue.	ERYTHROCYTOSIS/ERYTHROPHAGOCYTOSIS, Minimal.
Ovaries . . . . .	No gross observations on tissue.	ATROPHIC CHANGES, Slight.
Parathyroid . . . . .	No gross observations on tissue.	Tissue is unremarkable; one-of-pair missing.

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:

Adrenal Glands	Aorta	Sternal Marrow	Femoral Marrow	Brain
Sternum	Distal Femur	Cecum	Colon	Duodenum
Esophagus	Eyes	Harderian Gl	Heart	Ileum
Jejunum	Kidneys	Lacrimal gland	Liver	Mesenteric LN
Lungs	Mammary protocol	Nerve Sciatic	Pancreas	Pituitary
P. Patches/GALT	Cervical SC	Thoracic SC	Lumbar SC	Salivary Gland
Skin protocol	Muscle protocol	Spleen	Stomach	Thyroid
Thymus	Trachea	Urinary Bladder	Uterus w/ Cervix	Vagina

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Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

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 PHASE: Dosing phase                                  STATUS: Final phase sacrifice                                  ANIMAL: 1508  
 PHASE DAY OF DEATH: 93                                  SEX: Female                                  GROUP: 1  
 -----

-----  
 Tissue                                  Gross Observations/Comments                                  Microscopic Observations/Comments  
 -----

Mediastinal LN . . . . No gross observations on tissue.

ERYTHROCYTOSIS/ERYTHROPHAGOCYTOSIS,  
Minimal.

Parathyroid . . . . . No gross observations on tissue.

Tissue is missing.

Tissues without comment under Gross Observations were within normal limits at necropsy.

The following tissues were unremarkable microscopically:

Adrenal Glands	Aorta	Sternal Marrow	Femoral Marrow	Brain
Sternum	Distal Femur	Cecum	Colon	Duodenum
Esophagus	Eyes	Harderian G1	Heart	Ileum
Jejunum	Kidneys	Lacrimal gland	Liver	Mesenteric LN
Lungs	Mammary protocol	Nerve Sciatic	Ovaries	Pancreas
Pituitary	P. Patches/GALT	Cervical SC	Thoracic SC	Lumbar SC
Salivary Gland	Skin protocol	Muscle protocol	Spleen	Stomach
Thyroid	Thymus	Trachea	Urinary Bladder	Uterus w/ Cervix
Vagina				



Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

Tissue	Gross Observations/Comments	Microscopic Observations/Comments
PHASE: Dosing phase	STATUS: Final phase sacrifice	ANIMAL: 1509
PHASE DAY OF DEATH: 93	SEX: Female	GROUP: 1
Eyes . . . . .	No gross observations on tissue.	RETINAL FOLDS, Present.
Harderian Gl . . . . .	No gross observations on tissue.	INFLAMMATORY INFILTRATE: MONONUCLEAR CELL, Minimal.
Parathyroid . . . . .	No gross observations on tissue.	Tissue is unremarkable; one-of-pair missing.

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:

Adrenal Glands	Aorta	Sternal Marrow	Femoral Marrow	Brain
Sternum	Distal Femur	Cecum	Colon	Duodenum
Esophagus	Heart	Ileum	Jejunum	Kidneys
Lacrimal gland	Liver	Mesenteric LN	Mediastinal LN	Lungs
Mammary protocol	Nerve Sciatic	Ovaries	Pancreas	Pituitary
P. Patches/GALT	Cervical SC	Thoracic SC	Lumbar SC	Salivary Gland
Skin protocol	Muscle protocol	Spleen	Stomach	Thyroid
Thymus	Trachea	Urinary Bladder	Uterus w/ Cervix	Vagina

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

Tissue	Gross Observations/Comments	Microscopic Observations/Comments
Harderian Gl . . . . .	No gross observations on tissue.	INFLAMMATORY INFILTRATE: MONONUCLEAR CELL, Minimal.
Ovaries . . . . .	No gross observations on tissue.	ATROPHIC CHANGES, Slight.
Pituitary . . . . .	No gross observations on tissue.	CYST(S), Present.
Parathyroid . . . . .	No gross observations on tissue.	Tissue is missing.

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:

Adrenal Glands	Aorta	Sternal Marrow	Femoral Marrow	Brain
Sternum	Distal Femur	Cecum	Colon	Duodenum
Esophagus	Eyes	Heart	Ileum	Jejunum
Kidneys	Lacrimal gland	Liver	Mesenteric LN	Mediastinal LN
Lungs	Mammary protocol	Nerve Sciatic	Pancreas	P. Patches/GALT
Cervical SC	Thoracic SC	Lumbar SC	Salivary Gland	Skin protocol
Muscle protocol	Spleen	Stomach	Thyroid	Thymus
Trachea	Urinary Bladder			

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Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

PHASE: Recovery phase	STATUS: Final phase sacrifice	ANIMAL: 1511
PHASE DAY OF DEATH: 60	SEX: Female	GROUP: 1
Tissue	Gross Observations/Comments	Microscopic Observations/Comments

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
Kidneys

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Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

PHASE: Recovery phase	STATUS: Final phase sacrifice	ANIMAL: 1512
PHASE DAY OF DEATH: 60	SEX: Female	GROUP: 1
Tissue	Gross Observations/Comments	Microscopic Observations/Comments

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
Kidneys

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Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

PHASE: Recovery phase	STATUS: Final phase sacrifice	ANIMAL: 1513
PHASE DAY OF DEATH: 60	SEX: Female	GROUP: 1
Tissue	Gross Observations/Comments	Microscopic Observations/Comments

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
Kidneys



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Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

---

PHASE: Recovery phase	STATUS: Final phase sacrifice	ANIMAL: 1515
PHASE DAY OF DEATH: 60	SEX: Female	GROUP: 1

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Tissue	Gross Observations/Comments	Microscopic Observations/Comments
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Kidneys . . . . . No gross observations on tissue.

MINERALIZED DEPOSITS, Minimal.

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
No tissues to list.





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Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

---

PHASE: Recovery phase	STATUS: Final phase sacrifice	ANIMAL: 1517
PHASE DAY OF DEATH: 60	SEX: Female	GROUP: 1

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Tissue	Gross Observations/Comments	Microscopic Observations/Comments
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Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
Kidneys

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Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

PHASE: Recovery phase	STATUS: Final phase sacrifice	ANIMAL: 1518
PHASE DAY OF DEATH: 60	SEX: Female	GROUP: 1
Tissue	Gross Observations/Comments	Microscopic Observations/Comments

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
Kidneys





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Individual Animal Gross and Microscopic Observations

PHASE: Dosing phase	STATUS: Final phase sacrifice	ANIMAL: 2501
PHASE DAY OF DEATH: 93	SEX: Female	GROUP: 2
Tissue	Gross Observations/Comments	Microscopic Observations/Comments

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
Kidneys

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Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

PHASE: Dosing phase	STATUS: Final phase sacrifice	ANIMAL: 2502
PHASE DAY OF DEATH: 93	SEX: Female	GROUP: 2
Tissue	Gross Observations/Comments	Microscopic Observations/Comments

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
Kidneys

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Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

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PHASE: Dosing phase	STATUS: Final phase sacrifice	ANIMAL: 2503
PHASE DAY OF DEATH: 93	SEX: Female	GROUP: 2

---

Tissue	Gross Observations/Comments	Microscopic Observations/Comments
Kidneys . . . . .	No gross observations on tissue.	TUBULAR CYST(S), Present, Focal, UNILATERAL.

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Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
No tissues to list.

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Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

PHASE: Dosing phase	STATUS: Final phase sacrifice	ANIMAL: 2504
PHASE DAY OF DEATH: 93	SEX: Female	GROUP: 2
Tissue	Gross Observations/Comments	Microscopic Observations/Comments

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
Kidneys



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Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

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PHASE: Dosing phase	STATUS: Final phase sacrifice	ANIMAL: 2505
PHASE DAY OF DEATH: 93	SEX: Female	GROUP: 2

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Tissue	Gross Observations/Comments	Microscopic Observations/Comments
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Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
Kidneys

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 Administration Study in Rats (GLP)  
 Individual Animal Gross and Microscopic Observations

Tissue	Gross Observations/Comments	Microscopic Observations/Comments
Kidneys . . . . .	No gross observations on tissue.	MINERALIZED DEPOSITS, Slight.

Tissues without comment under Gross Observations were within normal limits at necropsy.  
 The following tissues were unremarkable microscopically:  
 No tissues to list.

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Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

Tissue	Gross Observations/Comments	Microscopic Observations/Comments
Kidneys . . . . .	No gross observations on tissue.	MINERALIZED DEPOSITS, Minimal.

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
No tissues to list.

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Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

PHASE: Dosing phase	STATUS: Final phase sacrifice	ANIMAL: 2508
PHASE DAY OF DEATH: 93	SEX: Female	GROUP: 2
Tissue	Gross Observations/Comments	Microscopic Observations/Comments

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
Kidneys

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Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

Tissue	Gross Observations/Comments	Microscopic Observations/Comments
Kidneys . . . . .	No gross observations on tissue.	TUBULAR CYST(S), Present, Focal, UNILATERAL.

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
No tissues to list.

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Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

PHASE: Dosing phase	STATUS: Final phase sacrifice	ANIMAL: 2510
PHASE DAY OF DEATH: 93	SEX: Female	GROUP: 2
Tissue	Gross Observations/Comments	Microscopic Observations/Comments

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
Kidneys

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Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

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PHASE: Dosing phase	STATUS: Final phase sacrifice	ANIMAL: 3501
PHASE DAY OF DEATH: 93	SEX: Female	GROUP: 3

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Tissue	Gross Observations/Comments	Microscopic Observations/Comments
Kidneys . . . . .	No gross observations on tissue.	PELVIC CALCULI, Slight, UNILATERAL.

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Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
No tissues to list.

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Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

PHASE: Dosing phase	STATUS: Final phase sacrifice	ANIMAL: 3502
PHASE DAY OF DEATH: 93	SEX: Female	GROUP: 3
Tissue	Gross Observations/Comments	Microscopic Observations/Comments

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
Kidneys



Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

PHASE: Dosing phase	STATUS: Final phase sacrifice	ANIMAL: 3503
PHASE DAY OF DEATH: 93	SEX: Female	GROUP: 3
Tissue	Gross Observations/Comments	Microscopic Observations/Comments
Kidneys . . . . .	No gross observations on tissue.	MINERALIZED DEPOSITS, Minimal.

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
No tissues to list.

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Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

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PHASE: Dosing phase                      STATUS: Final phase sacrifice                      ANIMAL: 3504  
PHASE DAY OF DEATH: 93                      SEX: Female                      GROUP: 3  
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Tissue                      Gross Observations/Comments                      Microscopic Observations/Comments  
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Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
    Kidneys

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Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
 Administration Study in Rats (GLP)  
 Individual Animal Gross and Microscopic Observations

PHASE: Dosing phase	STATUS: Final phase sacrifice	ANIMAL: 3505
PHASE DAY OF DEATH: 93	SEX: Female	GROUP: 3

Tissue	Gross Observations/Comments	Microscopic Observations/Comments
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Kidneys . . . . .	No gross observations on tissue.	
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		MINERALIZED DEPOSITS, Minimal.
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Tissues without comment under Gross Observations were within normal limits at necropsy.  
 The following tissues were unremarkable microscopically:  
 No tissues to list.

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Sodium Molybdate Dihydrate: A 90-Day Oral Dietary Administration Study in Rats (GLP) Individual Animal Gross and Microscopic Observations

PHASE: Dosing phase STATUS: Final phase sacrifice ANIMAL: 3506 PHASE DAY OF DEATH: 93 SEX: Female GROUP: 3

Table with 3 columns: Tissue, Gross Observations/Comments, Microscopic Observations/Comments. Rows include Kidneys and Liver with detailed observations on gross and microscopic findings.

Tissues without comment under Gross Observations were within normal limits at necropsy. The following tissues were unremarkable microscopically: No tissues to list.

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Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

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PHASE: Dosing phase	STATUS: Final phase sacrifice	ANIMAL: 3507
PHASE DAY OF DEATH: 93	SEX: Female	GROUP: 3

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Tissue	Gross Observations/Comments	Microscopic Observations/Comments
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Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
Kidneys

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Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

Tissue	Gross Observations/Comments	Microscopic Observations/Comments
Kidneys . . . . .	No gross observations on tissue.	MINERALIZED DEPOSITS, Minimal.

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
No tissues to list.

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Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

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          PHASE: Dosing phase                STATUS: Final phase sacrifice          ANIMAL: 3509
PHASE DAY OF DEATH: 93                      SEX: Female                            GROUP: 3
-----
Tissue          Gross Observations/Comments          Microscopic Observations/Comments
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Kidneys . . . . . No gross observations on tissue.
                                           MINERALIZED DEPOSITS, Minimal.

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Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
No tissues to list.

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Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
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Individual Animal Gross and Microscopic Observations

PHASE: Dosing phase	STATUS: Final phase sacrifice	ANIMAL: 3510
PHASE DAY OF DEATH: 93	SEX: Female	GROUP: 3
Tissue	Gross Observations/Comments	Microscopic Observations/Comments

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
Kidneys



Sodium Molybdate Dihydrate: A 90-Day Oral Dietary Administration Study in Rats (GLP) Individual Animal Gross and Microscopic Observations

PHASE: Dosing phase STATUS: Final phase sacrifice ANIMAL: 4501 PHASE DAY OF DEATH: 93 SEX: Female GROUP: 4

Tissue Gross Observations/Comments Microscopic Observations/Comments

Table with 3 columns: Tissue, Gross Observations/Comments, and Microscopic Observations/Comments. Rows include Harderian G1, Kidneys, Mediastinal LN, and Pancreas.

Tissues without comment under Gross Observations were within normal limits at necropsy. The following tissues were unremarkable microscopically:

Table listing unremarkable tissues: Adrenal Glands, Aorta, Sternal Marrow, Femoral Marrow, Brain, Sternum, Distal Femur, Cecum, Colon, Duodenum, Esophagus, Eyes, Heart, Ileum, Jejunum, Lacrimal gland, Liver, Mesenteric LN, Lungs, Mammary protocol, Nerve Sciatic, Ovaries, Pituitary, P. Patches/GALT, Parathyroid, Cervical SC, Thoracic SC, Lumbar SC, Salivary Gland, Skin protocol, Muscle protocol, Spleen, Stomach, Thyroid, Thymus, Trachea, Urinary Bladder, Uterus w/ Cervix, Vagina.

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary Administration Study in Rats (GLP) Individual Animal Gross and Microscopic Observations

PHASE: Dosing phase STATUS: Final phase sacrifice ANIMAL: 4502 PHASE DAY OF DEATH: 93 SEX: Female GROUP: 4

Tissue Gross Observations/Comments Microscopic Observations/Comments

Table with 3 columns: Tissue, Gross Observations/Comments, Microscopic Observations/Comments. Rows include Harderian Gl, Kidneys, Liver, Ovaries, and Parathyroid with their respective observations.

Tissues without comment under Gross Observations were within normal limits at necropsy. The following tissues were unremarkable microscopically:

- List of tissues: Adrenal Glands, Sternum, Esophagus, Lacrimal gland, Nerve Sciatic, Aorta, Distal Femur, Eyes, Mesenteric LN, Pancreas, Sternal Marrow, Cecum, Heart, Mediastinal LN, Pituitary, Femoral Marrow, Colon, Ileum, Lungs, P. Patches/GALT, Brain, Duodenum, Jejunum, Mammary protocol, Cervical SC

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
 Administration Study in Rats (GLP)  
 Individual Animal Gross and Microscopic Observations

PHASE: Dosing phase		STATUS: Final phase sacrifice		ANIMAL: 4502	
PHASE DAY OF DEATH: 93		SEX: Female		GROUP: 4	
Tissue	Gross Observations/Comments			Microscopic Observations/Comments	
Thoracic SC	Lumbar SC	Salivary Gland	Skin protocol	Muscle protocol	
Spleen	Stomach	Thyroid	Thymus	Trachea	
Urinary Bladder	Uterus w/ Cervix	Vagina			

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

PHASE: Dosing phase	STATUS: Final phase sacrifice	ANIMAL: 4503
PHASE DAY OF DEATH: 93	SEX: Female	GROUP: 4
Tissue	Gross Observations/Comments	Microscopic Observations/Comments
Kidneys . . . . .	No gross observations on tissue.	TUBULAR HYPERPLASIA, Slight.
Ovaries . . . . .	No gross observations on tissue.	ATROPHIC CHANGES, Slight.
Pancreas . . . . .	No gross observations on tissue.	LYMPHOID CELL AGGREGATE(S), Minimal.
Parathyroid . . . . .	No gross observations on tissue.	Tissue is unremarkable; one-of-pair missing.
Skin (other) . . . . .	Hair Thin/Absent, Hindlegs, Bilateral, Moderate	Examined; 1 correlation found: HYPOTRICHOSIS, Moderate.

Tissues without comment under Gross Observations were within normal limits at necropsy.

The following tissues were unremarkable microscopically:

Adrenal Glands	Aorta	Sternal Marrow	Femoral Marrow	Brain
Sternum	Distal Femur	Cecum	Colon	Duodenum
Esophagus	Eyes	Harderian G1	Heart	Ileum
Jejunum	Lacrimal gland	Liver	Mesenteric LN	Mediastinal LN
Lungs	Mammary protocol	Nerve Sciatic	Pituitary	P. Patches/GALT
Cervical SC	Thoracic SC	Lumbar SC	Salivary Gland	Skin protocol
Muscle protocol	Spleen	Stomach	Thyroid	Thymus
Trachea	Urinary Bladder	Uterus w/ Cervix	Vagina	

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

PHASE: Dosing phase		STATUS: Final phase sacrifice	ANIMAL: 4504
PHASE DAY OF DEATH: 93		SEX: Female	GROUP: 4
Tissue	Gross Observations/Comments	Microscopic Observations/Comments	
Kidneys . . . . .	No gross observations on tissue.	TUBULAR HYPERPLASIA, Slight.	
Mediastinal LN . . . . .	No gross observations on tissue.	ERYTHROCYTOSIS/ERYTHROPHAGOCYTOSIS, Slight.	
Ovaries . . . . .	No gross observations on tissue.	CYST(S), Slight. ATROPHIC CHANGES, Slight.	

Tissues without comment under Gross Observations were within normal limits at necropsy.

The following tissues were unremarkable microscopically:

Adrenal Glands	Aorta	Sternal Marrow	Femoral Marrow	Brain
Sternum	Distal Femur	Cecum	Colon	Duodenum
Esophagus	Eyes	Harderian Gl	Heart	Ileum
Jejunum	Lacrimal gland	Liver	Mesenteric LN	Lungs
Mammary protocol	Nerve Sciatic	Pancreas	Pituitary	P. Patches/GALT
Parathyroid	Cervical SC	Thoracic SC	Lumbar SC	Salivary Gland
Skin protocol	Muscle protocol	Spleen	Stomach	Thyroid
Thymus	Trachea	Urinary Bladder	Uterus w/ Cervix	Vagina

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary Administration Study in Rats (GLP) Individual Animal Gross and Microscopic Observations

PHASE: Dosing phase STATUS: Final phase sacrifice ANIMAL: 4505 PHASE DAY OF DEATH: 93 SEX: Female GROUP: 4

Tissue Gross Observations/Comments Microscopic Observations/Comments

Harderian G1 . . . . . No gross observations on tissue.

INFLAMMATORY INFILTRATE: MONONUCLEAR CELL, Minimal.

Parathyroid . . . . . No gross observations on tissue.

Tissue is unremarkable; one-of-pair missing.

Tissues without comment under Gross Observations were within normal limits at necropsy. The following tissues were unremarkable microscopically:

- Adrenal Glands Aorta Sternal Marrow Femoral Marrow Brain
Sternum Distal Femur Cecum Colon Duodenum
Esophagus Eyes Heart Ileum Jejunum
Kidneys Lacrimal gland Liver Mesenteric LN Mediastinal LN
Lungs Mammary protocol Nerve Sciatic Ovaries Pancreas
Pituitary P. Patches/GALT Cervical SC Thoracic SC Lumbar SC
Salivary Gland Skin protocol Muscle protocol Spleen Stomach
Thyroid Thymus Trachea Urinary Bladder Uterus w/ Cervix
Vagina

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

Tissue	Gross Observations/Comments	Microscopic Observations/Comments
PHASE: Dosing phase	STATUS: Final phase sacrifice	ANIMAL: 4506
PHASE DAY OF DEATH: 93	SEX: Female	GROUP: 4
Kidneys . . . . .	No gross observations on tissue.	MINERALIZED DEPOSITS, Slight.
Parathyroid . . . . .	No gross observations on tissue.	Tissue is unremarkable; one-of-pair missing.

Tissues without comment under Gross Observations were within normal limits at necropsy.

The following tissues were unremarkable microscopically:

- |                |                  |                 |                 |                  |
|----------------|------------------|-----------------|-----------------|------------------|
| Adrenal Glands | Aorta            | Sternal Marrow  | Femoral Marrow  | Brain            |
| Sternum        | Distal Femur     | Cecum           | Colon           | Duodenum         |
| Esophagus      | Eyes             | Harderian Gl    | Heart           | Ileum            |
| Jejunum        | Lacrimal gland   | Liver           | Mesenteric LN   | Mediastinal LN   |
| Lungs          | Mammary protocol | Nerve Sciatic   | Ovaries         | Pancreas         |
| Pituitary      | P. Patches/GALT  | Cervical SC     | Thoracic SC     | Lumbar SC        |
| Salivary Gland | Skin protocol    | Muscle protocol | Spleen          | Stomach          |
| Thyroid        | Thymus           | Trachea         | Urinary Bladder | Uterus w/ Cervix |
| Vagina         |                  |                 |                 |                  |





Sodium Molybdate Dihydrate: A 90-Day Oral Dietary Administration Study in Rats (GLP) Individual Animal Gross and Microscopic Observations

PHASE: Dosing phase STATUS: Final phase sacrifice ANIMAL: 4508 PHASE DAY OF DEATH: 93 SEX: Female GROUP: 4

Table with 3 columns: Tissue, Gross Observations/Comments, Microscopic Observations/Comments. Rows include Kidneys, Lacrimal gland, and Ovaries.

Tissues without comment under Gross Observations were within normal limits at necropsy. The following tissues were unremarkable microscopically:

Table listing various tissues such as Adrenal Glands, Aorta, Sternal Marrow, Femoral Marrow, Brain, etc.

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Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

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PHASE: Dosing phase STATUS: Final phase sacrifice ANIMAL: 4509  
PHASE DAY OF DEATH: 93 SEX: Female GROUP: 4  
-----

Tissue	Gross Observations/Comments	Microscopic Observations/Comments
Harderian Gl . . . . .	No gross observations on tissue.	INFLAMMATORY INFILTRATE: MONONUCLEAR CELL, Minimal.
Kidneys . . . . .	No gross observations on tissue.	MINERALIZED DEPOSITS, Minimal.
Mediastinal LN . . . . .	No gross observations on tissue.	ERYTHROCYTOSIS/ERYTHROPHAGOCYTOSIS, Minimal.
Parathyroid . . . . .	No gross observations on tissue.	Tissue is unremarkable; one-of-pair missing.

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:

Adrenal Glands	Aorta	Sternal Marrow	Femoral Marrow	Brain
Sternum	Distal Femur	Cecum	Colon	Duodenum
Esophagus	Eyes	Heart	Ileum	Jejunum
Lacrimal gland	Liver	Mesenteric LN	Lungs	Mammary protocol
Nerve Sciatic	Ovaries	Pancreas	Pituitary	P. Patches/GALT
Cervical SC	Thoracic SC	Lumbar SC	Salivary Gland	Skin protocol
Muscle protocol	Spleen	Stomach	Thyroid	Thymus
Trachea	Urinary Bladder	Uterus w/ Cervix	Vagina	

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

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PHASE: Dosing phase          STATUS: Final phase sacrifice    ANIMAL: 4510
PHASE DAY OF DEATH: 93      SEX: Female                      GROUP: 4
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Tissue	Gross Observations/Comments	Microscopic Observations/Comments
Mediastinal LN . . . .	No gross observations on tissue.	ERYTHROCYTOSIS/ERYTHROPHAGOCYTOSIS, Minimal.
Parathyroid . . . . .	No gross observations on tissue.	Tissue is missing.

Tissues without comment under Gross Observations were within normal limits at necropsy.

The following tissues were unremarkable microscopically:

Adrenal Glands	Aorta	Sternal Marrow	Femoral Marrow	Brain
Sternum	Distal Femur	Cecum	Colon	Duodenum
Esophagus	Eyes	Harderian Gl	Heart	Ileum
Jejunum	Kidneys	Lacrimal gland	Liver	Mesenteric LN
Lungs	Mammary protocol	Nerve Sciatic	Ovaries	Pancreas
Pituitary	P. Patches/GALT	Cervical SC	Thoracic SC	Lumbar SC
Salivary Gland	Skin protocol	Muscle protocol	Spleen	Stomach
Thyroid	Thymus	Trachea	Urinary Bladder	Uterus w/ Cervix
Vagina				

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Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

PHASE: Recovery phase	STATUS: Final phase sacrifice	ANIMAL: 4511
PHASE DAY OF DEATH: 60	SEX: Female	GROUP: 4

Tissue	Gross Observations/Comments	Microscopic Observations/Comments
Kidneys . . . . .	No gross observations on tissue.	MINERALIZED DEPOSITS, Minimal.

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
No tissues to list.





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Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

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PHASE: Recovery phase	STATUS: Final phase sacrifice	ANIMAL: 4514
PHASE DAY OF DEATH: 60	SEX: Female	GROUP: 4

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Tissue	Gross Observations/Comments	Microscopic Observations/Comments
Kidneys . . . . .	No gross observations on tissue.	MINERALIZED DEPOSITS, Minimal.

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Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
No tissues to list.

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Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

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PHASE: Recovery phase	STATUS: Final phase sacrifice	ANIMAL: 4515
PHASE DAY OF DEATH: 60	SEX: Female	GROUP: 4

---

Tissue	Gross Observations/Comments	Microscopic Observations/Comments
Kidneys . . . . .	No gross observations on tissue.	MINERALIZED DEPOSITS, Minimal.

---

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
No tissues to list.



19-Oct-11; 14:56

Huntingdon Life Sciences, Inc. 10-2225

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

-----  
PHASE: Recovery phase                      STATUS: Final phase sacrifice                      ANIMAL: 4516  
PHASE DAY OF DEATH: 60                      SEX: Female                      GROUP: 4  
-----  
Tissue                      Gross Observations/Comments                      Microscopic Observations/Comments  
-----

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
Kidneys

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Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

PHASE: Recovery phase	STATUS: Final phase sacrifice	ANIMAL: 4517
PHASE DAY OF DEATH: 60	SEX: Female	GROUP: 4

Tissue	Gross Observations/Comments	Microscopic Observations/Comments
Kidneys . . . . .	No gross observations on tissue.	MINERALIZED DEPOSITS, Minimal.
Lungs . . . . .	Discolored, Right apical lobe, Red, Focus, </= 0.1 cm, Moderate	No micropathology observations on tissue.

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
No tissues to list.

19-Oct-11; 14:56

Huntingdon Life Sciences, Inc. 10-2225

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

```

-----
          PHASE: Recovery phase          STATUS: Final phase sacrifice          ANIMAL: 4518
PHASE DAY OF DEATH: 60                   SEX: Female                               GROUP: 4
-----
Tissue          Gross Observations/Comments          Microscopic Observations/Comments
-----
Kidneys . . . . . No gross observations on tissue.
                                         MINERALIZED DEPOSITS, Minimal.

```

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
No tissues to list.

Huntingdon Life Sciences, Inc. 10-2225

Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

-----  
PHASE: Recovery phase    STATUS: Final phase sacrifice    ANIMAL: 4519  
PHASE DAY OF DEATH: 60    SEX: Female    GROUP: 4  
-----

Tissue	Gross Observations/Comments	Microscopic Observations/Comments
Kidneys . . . . .	No gross observations on tissue.	TUBULAR CYST(S), Present, UNILATERAL.

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
  No tissues to list.

19-Oct-11; 14:56

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Huntingdon Life Sciences, Inc. 10-2225

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Sodium Molybdate Dihydrate: A 90-Day Oral Dietary  
Administration Study in Rats (GLP)  
Individual Animal Gross and Microscopic Observations

---

PHASE: Recovery phase	STATUS: Final phase sacrifice	ANIMAL: 4520
PHASE DAY OF DEATH: 60	SEX: Female	GROUP: 4

---

Tissue	Gross Observations/Comments	Microscopic Observations/Comments
--------	-----------------------------	-----------------------------------

---

Tissues without comment under Gross Observations were within normal limits at necropsy.  
The following tissues were unremarkable microscopically:  
Kidneys



**Spark Source Mass Spectrometry**  
**NORTHERN ANALYTICAL LABORATORY, INC.**

23 Depot St., Merrimack, NH 03054

Phone: (603) 429-9500

FAX: (603) 429-9471

www.northernanalytical.com

SAMPLE NO. SI35892

FILE NO. 16893

DATE: 15/06/2006

Steve Elder

Sodium Molybdated DeHydrate

Climax Molybdenum

PO Box 220

PO # F37766

Fort Madison IA 52627

#43014L

ANALYSIS	ppmw	ANALYSIS	ppmw	ANALYSIS	ppmw
Li	<0.05	As	0.1	Sm	<0.1
Be	<0.05	Se	<0.5	Eu	<0.1
B	<0.1	Br	0.7	Gd	<0.1
F	5	Rb	2	Tb	<0.1
Na	Major	Sr	<0.2	Dy	<0.1
Mg	<2	Y	<0.2	Ho	<0.1
Al	3	Zr	<0.5	Er	<0.1
Si	5	Nb	<1	Tm	<0.1
P	0.5	Mo	Major	Yb	<0.1
S	15	Ru	<0.2	Lu	<0.1
Cl	15	Rh	<0.2	Hf	<0.5
K	175	Pd	<0.2	Ta	<1
Ca	4	Ag	<2	W	20
Sc	<0.1	Cd	<5	Re	<5
Ti	Interference	In	<0.1	Os	<0.2
V	0.2	Sn	0.5	Ir	<0.2
Cr	0.5	Sb	0.4	Pt	<0.2
Mn	<0.1	Te	<2	Au	<0.5
Fe	0.5	I	<5	Hg	<1
Co	<0.2	Cs	<0.2	Tl	<0.2
Ni	0.2	Ba	<0.2	Pb	<0.2
Cu	0.4	La	<0.1	Bi	<0.2
Zn	<0.5	Ce	<0.1	Th	<0.5
Ga	<0.2	Pr	<0.1	U	<0.5
Ge	<0.5	Nd	<0.1		



ANALYSIS BY:

William A. Guidoboni / Sr. Analytical Chemist

Name/Function

APPROVED BY:

Richard J. Guidoboni / President

Name/Function

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**NORTHERN ANALYTICAL LABORATORY, INC.**

23 Depot St., Merrimack, NH 03054

Phone: (603) 429-9500

FAX: (603) 429-9471

**TEST REPORT**

Climax Molybdenum Co.

PO Box 220

Fort Madison, IA 52627

<b>RECEIVED</b>	3/12/07	<b>SAMPLE NUMBER</b>	SI35892
<b>IDENT AS</b>	See below	<b>REPORT DATE</b>	3/21/07
<b>MATERIAL</b>	Na <sub>2</sub> MoO <sub>4</sub> • 2(H <sub>2</sub> O)	<b>PAGE</b>	1 of 1
<b>CONDITION</b>	Powder	<b>CLIENT ORDER</b>	
<b>TEST TO</b>			
<b>TEST PER</b>	TP-ICP1		

**Method:**
ICP-MS analysis

<u>Sample I.D.</u>	<u>Mo(wt%)</u>	<u>Na (wt%)</u>
43006L	39.5 ± 0.8	19.1 ± 0.4

 Analysis By: Peter S. Dickson  
 Analytical Chemist

 Approved By: William A. Guidoboni  
 Sr. Analytical Chemist


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# Laboratory Diet Certification Report

Teklad Certified Global 16% Protein Rodent Diet (MEAL)

**2016CM**



Lot Number **2016CM-081010MB**

Date of Manufacture **08/10/10**

Report Date **08/26/10**

The following data is a consolidation of results obtained from one or more independent testing laboratories. The actual laboratory results are available upon request.

*Kurt Schaefer*

Quality Assurance Coordinator, Teklad Diets  
Research Models and Services  
Harlan Laboratories, Inc.

I have reviewed this document  
2010.08.26 09:38:31  
-05'00'

### Proximate Analysis

Analyte	Result (%)
Protein	16.00
Fat	3.79
Fiber	3.14
Moisture	10.80
Ash	4.94
Calcium	0.96
Phosphorus	0.67

### Feed Contaminant Screen

	Result	Units	Estimated Maximum Concentration
--	--------	-------	---------------------------------

#### Heavy Metals

Arsenic	0.12	ppm	1.00
Cadmium	< 0.10	ppm	0.50
Lead	< 0.20	ppm	1.50
Mercury	< 0.05	ppm	0.20
Selenium	0.27	ppm	0.50

#### Mycotoxin

Aflatoxin B1, B2, G1, G2	< 5.00	ppb	5.00
--------------------------	--------	-----	------

#### Chlorinated Hydrocarbons

Aldrin	< 0.01	ppm	0.03
Lindane	< 0.01	ppm	0.05
Chlordane	< 0.01	ppm	0.05
DDT & related substances	< 0.03	ppm	0.15
Dieldrin	< 0.02	ppm	0.03
Endrin	< 0.02	ppm	0.03
Heptachlor	< 0.01	ppm	0.03
Heptachlor Epoxide	< 0.01	ppm	0.03
Toxaphene	< 0.10	ppm	0.15
PCB's	< 0.10	ppm	0.15
α-BHC	< 0.01	ppm	0.05
β-BHC	< 0.01	ppm	0.05
δ-BHC	< 0.01	ppm	0.05
Hexachlorobenzene	< 0.01	ppm	0.03
Mirex	< 0.01	ppm	0.02
Methoxychlor	< 0.05	ppm	0.50

#### Organophosphates

Thimet	< 0.15	ppm	0.50
Diazinon	< 0.14	ppm	0.50
Disulfoton	< 0.15	ppm	0.50
Methyl Parathion	< 0.14	ppm	0.50
Malathion	< 0.14	ppm	0.50
Parathion	< 0.12	ppm	0.50
Thiodan	< 0.02	ppm	0.50
Ethion	< 0.14	ppm	0.50
Trithion	< 0.15	ppm	0.50

REVIEWED

T-6 Jan 11



**Laboratory Diet Certification Report**

Teklad Certified Global 16% Protein Rodent Diet

**2016C**Lot Number **2016C-081010MA**Date of Manufacture **08/10/10**Report Date **08/26/10**

The following data is a consolidation of results obtained from one or more independent testing laboratories. The actual laboratory results are available upon request.

Quality Assurance Coordinator, Teklad Diets  
Research Models and Services  
Harlan Laboratories, Inc.

I have reviewed  
this document

2010.08.27

13:14:43 -05'00'

**Proximate Analysis**

Analysis	Result (%)
Protein	16.00
Fat	3.88
Fiber	3.03
Moisture	11.30
Ash	4.70
Calcium	0.91
Phosphorus	0.70

**Feed Contaminant Screen**

Contaminant	Result	Units	Established Limit Concentration
-------------	--------	-------	------------------------------------

**Heavy Metals**

Arsenic	< 0.10	ppm	1.00
Cadmium	< 0.10	ppm	0.50
Lead	< 0.20	ppm	1.50
Mercury	< 0.05	ppm	0.20
Selenium	0.24	ppm	0.50

**Mycotoxin**

Aflatoxin B1, B2, G1, G2	< 5.00	ppb	5.00
--------------------------	--------	-----	------

**Chlorinated Hydrocarbons**

Aldrin	< 0.01	ppm	0.03
Lindane	< 0.01	ppm	0.05
Chlordane	< 0.01	ppm	0.05
DDT & related substances	< 0.03	ppm	0.15
Dieldrin	< 0.02	ppm	0.03
Endrin	< 0.02	ppm	0.03
Heptachlor	< 0.01	ppm	0.03
Heptachlor Epoxide	< 0.01	ppm	0.03
Toxaphene	< 0.10	ppm	0.15
PCB's	< 0.10	ppm	0.15
a-BHC	< 0.01	ppm	0.05
b-BHC	< 0.01	ppm	0.05
d-BHC	< 0.01	ppm	0.05
Hexachlorobenzene	< 0.01	ppm	0.03
Mirex	< 0.01	ppm	0.02
Methoxychlor	< 0.05	ppm	0.50

**Organophosphates**

Thimet	< 0.15	ppm	0.50
Diazinon	< 0.14	ppm	0.50
Disulfoton	< 0.15	ppm	0.50
Methyl Parathion	< 0.14	ppm	0.50
Malathion	< 0.14	ppm	0.50
Parathion	< 0.12	ppm	0.50
Thiodan	< 0.02	ppm	0.50
Ethion	< 0.14	ppm	0.50
Trithion	< 0.15	ppm	0.50

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	Scientists and Supervising Personnel	Appendix R
--	--------------------------------------	------------

<b>TITLE/DEPARTMENT</b>	<b>NAME/DEGREE</b>
SENIOR VICE PRESIDENT, SAFETY ASSESSMENT	Sylvie J. Gosselin, DVM, PhD, Diplomate ACVP
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DIRECTOR, PATHOLOGY	Kevin Keane, DVM, PhD
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DIRECTOR, TOXICOLOGY OPERATIONS	Ian Vanterpool, FIAT
DIRECTOR, QUALITY ASSURANCE	Melissa Elliott, BS, RQAP-GLP
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Histology	Sally Wilcox, BSc

	Scientists and Supervising Personnel	Appendix R
--	--------------------------------------	------------

**TITLE/DEPARTMENT****NAME/DEGREE****PRINCIPLE INVESTIGATORS**

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