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TWO YEAR CHRONIC TOXICOLOGY STUDY OF BISPHENOL A (BPA) [CAS # 80-05-7] ADMINISTERED BY GAVAGE TO SPRAGUE-DAWLEY RATS (NCTR) FROM GESTATIONAL DAY 6 UNTIL BIRTH AND DIRECTLY TO F_1 PUPS FROM POSTNATAL DAY (PND) 1; CONTINUOUS AND STOP DOSE (PND 21) EXPOSURES

STATISTICAL REPORT

THE ONE YEAR INTERIM SACRIFICE CLINICAL CHEMISTRY DATA

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1 Contents

1 Introduction

BPA is a high production volume industrial chemical that is used as a monomer in the production of polycarbonate plastics and epoxy resins that have broad applications in consumer products, including storage containers for foods and beverages, and in medical devices. The toxicity of BPA and the need to change regulations regarding the use of BPA in the production of materials intended for food contact remain controversial subjects. This study was designed to address outstanding questions on the toxicity of BPA and, in particular, the question of long term adverse effects in a standard rat toxicology model following exposures that include developmental exposure.

1.1 Study Objectives

This two year chronic study was designed to characterize the long term toxicity of orally administered BPA, including developmental exposure, in the NCTR Sprague-Dawley (CD) rat over a broad dose range. One goal of this study is to evaluate the effects of exposure to BPA in Sprague-Dawley rats on the basis of the several clinical chemistry and hematology endpoints observed at the one year interim sacrifice.

1.2 Experimental Design

The study sample was made up of first generation female and male rats (F_0). The study animals were loaded in five blocks (loads), with up to 120 mating pairs per block for a total of for up to 600 mating pairs. The mating pairs in each block were respectively randomized to the treatment groups. The goal of the F_0 matings was to provide at least 352 study litters to sustain 50 per group for each of six BPA treatment groups including a vehicle control; and 26 per group for each of two EE_2 treatment groups respectively. The study treatments included: 0, 2.5, 25, 250, 2500, and 25000 µg BPA/kg bw/day; and 0.05 and 0.5 µg EE_2/kg bw/day. The dams were dosed daily from gestation day (GD) 6 until parturition and pups were dosed from PND 1. The dosing was done by gavage for F_0 dams and the second study generation F_1 pups. Litters were culled to 10 pups on PND 1.

There were two study arms in the study including: a continuous daily dosing arm through study termination, and a stop dose arm in which the F_1 pups were dosed daily through post-natal day (PND) 21, at which dosing stopped. The EE_2 treatment groups were included only in the continuous dose arm. The pups were allocated at weaning (PND 21), to the interim (1 year), sacrifice and to the terminal (2 year), sacrifices for the core study. There were 50 pups each for the vehicle and BPA terminal sacrifice groups whereas for the interim sacrifice and for the EE_2 terminal sacrifice groups, there were 20-26 pups each. Pups within litter and sex were assigned to different dosing arms and sacrifice times.

Clinical Chemistry Data

Blood was taken from the retro-orbital sinus at necropsy in the one year interim sacrifice. The blood was used for hematology and chemistry assessments. Table A, provides a complete list of the observed hematology and chemistry assessments.

2 Statistical Methods

Statistical analyses were performed separately by sex and dosing regimen (continuous dose or stop dose) arm. The non-parametric analysis of variance (ANOVA) method based on mid-ranks was used to evaluate the effect of treatment on clinical chemistry assessments assuming an unstructured covariance structure. The average of the left and right ranks was used for ties. A generalized linear logistic regression model was used to model troponin T detection level. The five BPA treatment groups were compared to the vehicle control within each sex and dosing regimen. Similarly, the EE_2 reference estrogen control treatments were compared to the vehicle control for each sex in the continuous dose arm. In order to control the overall type 1 error rate at the nominal 5% level, Dunnett's adjustment was used for pairwise multiple comparisons relative to the control. Orthogonal contrasts were used to test for trend over increasing BPA dose concentrations. All statistical tests are two-sided. Statistical significance was assessed at the 0.05 level. Any measurements below the limit of detection (LOD) were evaluated at the half the LOD level. All Quantity Not Sufficient (QNS) observations were considered missing.

In consultation with the Principal Investigator, a sensitivity analysis was also performed for robustness of the results. During the initial preweaning of pups, 134 core study 1 year interim sacrifice animals (22 in vehicle control, 84 in BPA 2.5, 25, 250, 2500, and 25000 µg/kg bw/day, and 28 in EE_2 dose groups) were held in the same rooms as a special BPA 250,000 µg/kg bw/day high dose animals requested by an academic laboratory. To address the possibility of inadvertent exposure, the sensitivity analysis excluded these animals for the analysis of each compound and study arm. The results of the sensitivity analysis are reported in the text.

3 Results and Discussions

This report summarizes the analysis results for hematology and clinical chemistry results for the one year interim sacrifice study. For brevity, doses administered as µg/kg bw/day are presented as µg/kg. In this report, the sensitivity analysis p-values are denoted by p_s. The results summary Tables are provided in the Appendix.

3.1 BPA Continuous Dose Arm

3.1.1 Females

Table 1, provides descriptive summary statistics including the group sample size and mean (± SE) for clinical chemistry assessments of female animals on continuous dose BPA treatment. Non-parametric summary statistics including the median (min, max), are presented in Table 2. The results for pairwise mean comparisons between the BPA-treated female animals and the female controls are provided in Table 3. The statistical tests have been accordingly adjusted for pairwise multiple comparisons.

The effect of 25000 µg/kg continuous dose BPA treatment on platelet counts was significant (p=0.04). Female rats on 25000 µg/kg of continuous dose BPA had lower platelet counts compared to female controls. Females on the 250 µg/kg of continuous dose BPA had significantly lower eosinophil levels (p=0.015) and also had significantly higher alkaline phosphate levels (p=0.041). The mean corpuscular hemoglobin concentration (MCHC), for females on 25 µg/kg of continuous dose BPA treatment differed significantly (p=0.007), from the female controls. There were significant trends over increasing levels of BPA dose concentrations for hemoglobin concentration (p=0.023), monocytes (p=0.045), and platelet counts (p=0.008). In the sensitivity analysis of clinical chemistry and hematology endpoints for females in the continuous BPA treatment arm, there was a significant pairwise comparison for 25 µg/kg for % monocytes (p_s=0.033) with higher levels in the treated group relative to the control. There were no additional statistically significant results in the sensitivity analysis of clinical chemistry and hematology endpoints for females in the BPA continuous dose arm.

3.1.2 Males

Descriptive summary statistics including group sample size and mean (± SE) for clinical chemistry assessments of the male rats on continuous dose BPA treatment are presented in Table 4. Table 5, provides the non-parametric summary statistics including the median (min, max). The results for pairwise multiple mean comparisons between the BPA-treated male rats and the male controls are provided in Table 6. The statistical tests were adjusted for pairwise multiple comparisons.

The effect of 25000 µg/kg of continuous dose BPA treatment on hemoglobin concentration for male rats was significant (p=0.042). The effect 250 µg/kg of continuous dose BPA treatment on % eosinophil levels of male rats was also significant (p=0.024). There were significant trends over increasing levels of BPA dose concentrations for hematocrit (p=0.006), hemoglobin concentration (p=0.016), mean corpuscular hemoglobin (p=0.018), mean corpuscular volume (p=0.016), packed cell volume (p=0.008), and platelet counts (p=0.011). Significant trends were also noted for albumin (p=0.007), *T4* (p=0.002),

and for total bile acids (p=0.026). In the sensitivity analysis of clinical chemistry and hematology endpoints for males in the continuous BPA treatment arm, there was a significant pairwise comparison for 250 µg/kg for albumin (p_s=0.012) with higher levels in the treated group relative to the control.

3.2 EE_2 Continuous Dose Arm

3.2.1 Females

The descriptive summary statistics including sample size, mean (± standard error), and median (min, max) for female rats on continuous dose EE_2 treatment are provided in Tables 7-8. Table 9, provides results of pairwise mean comparisons for female rats dosed with EE_2. The results were adjusted for pairwise comparisons.

The effect of 0.50 µg/kg of EE_2 treatment on the female rats was significant for eosinophils (p=0.02), % eosinophils (p=0.024), and platelet (p=0.043). Lower eosinophils, % eosinophils and platelet counts were noted for female rats in the 0.50 µg/kg EE_2 group. The rats in this group also had higher (p=0.025; approximately 103.6%) levels of *TSH*. The rats on 0.05 µg/kg of EE_2 treatment had higher (p=0.015; approximately 16.7%) levels of alkaline phosphatase. In the sensitivity analysis of clinical chemistry and hematology endpoints for females in the continuous EE_2 treatment groups, there were significant pairwise comparisons for 0.05 µg/kg for platelet counts (p_s=0.002) and gamma glutamyl transferase (p_s=0.018), with lower levels (approximately 9% and 20%) in the dosed group relative to controls.

3.2.2 Males

Descriptive summary statistics, including sample size, mean (± standard error), and median (min, max) for male rats on continuous dose EE_2 treatment are given in Tables 10-11. Table 12, provides results of pairwise mean comparisons for male rats dosed with EE_2. The statistical tests were adjusted for pairwise multiple comparisons.

The male rats in the 0.05 µg/kg EE_2 treatment group had slightly elevated hemoglobin concentration (p=0.023; approximately 3.4%) and lower insulin levels (p=0.047; approximately 30%). The triglycerides level for the male rats in the 0.5 µg/kg EE_2 was significantly higher (p=0.032; approximately 34.4%). There were no additional statistically significant results in the sensitivity analysis of clinical chemistry and hematology endpoints for males in the EE_2 continuous dose groups.

3.3 BPA Stop Dose Arm

3.3.1 Females

Tables 13-14, provides descriptive summary statistics including sample size, mean (± SE), and median (min, max) for female rats on stop dose BPA treatment. The results of pairwise mean comparisons for female rats treated with stop dose BPA are provided in Table 15. The results were accordingly adjusted for pairwise multiple comparisons.

No statistically significant differences were noted between stop dose BPA treated female rats and the female controls. There were, however, some significant trends over levels of BPA dose concentrations for % basophils (p=0.031), mean corpuscular hemoglobin (p=0.013), red blood cells (p=0.044), and albumin (p=0.004). The *SDH* level exhibited a significant (p_s=0.002) trend in the sensitivity analysis results.

3.3.2 Males

Descriptive summary statistics including sample size, mean (± SE), and median (min, max) for male rats on stop dose BPA treatment are presented in Tables 16-17. Table 18, gives results of pairwise means comparisons. The results are adjusted for pairwise multiple comparisons.

The levels of total bile acids and total proteins for the male rats on 25 µg/kg of BPA stop dose treatment differed significantly from the male controls (TBA p=0.011; TP p=0.015). Significant trends were noted over the levels of BPA dose concentrations in the stop dose arm for % neutrophils (p=0.045), T4 (p=0.046), and for *TBA* (p=0.024). In the sensitivity analysis of clinical chemistry and hematology endpoints for males in the stop dose BPA treatment arm, there was a significant pairwise comparison for BPA 25,000 µg/kg for T4 (p_s=0.015), with 15.7 % lower levels in the treatment group relative to controls, and a significant dose trend (p_s=0.040) for MCHC.

3.4 Troponin-I / Troponin-T

The descriptive summary statistics for Troponin-I and Troponin-T including sample size, mean (± SE), median (min, max), and percent detection rates are provided in Tables 19-20. Listings of detectable troponin I are provided in Tables 21. There was a troponin-T detectable rate of about 57.0%.

Table 22, gives results of pairwise treatment comparisons for the mean log-odds of troponin-T detection rates. The results are adjusted for pairwise multiple comparisons. The odds of detection did not differ significantly among treated animals when compared to the vehicle controls for both male and female rats. However, there was a significant (p=0.003) linear trend over the levels of BPA dose concentrations for male rats on continuous dose BPA treatment. The troponin I levels were relatively low with an overall

detectable rate of about 4.6%. No formal statistical analysis was done for troponin I because of the low detection rates.

4 Conclusions

The exposure of both male and female rats to different levels BPA treatment produced significant effects on several clinical chemistry endpoints. The female rats in the continuous dose BPA treatment arm exhibited significant changes in platelet counts, *MCHC* level and mean corpuscular hemoglobin concentration. Significant trends over levels of BPA were also noted for hemoglobin concentration, monocytes, and platelet counts. Similarly, there were significant changes in hemoglobin concentration; % eosinophil and albumin level for the male rats in the continuous dose BPA treatment arm. The rats also exhibited significant trends in hematocrit level, hemoglobin concentration, mean corpuscular hemoglobin, mean corpuscular volume, packed cell volume, and platelet counts; albumin level, *T4*, and total bile acids respectively.

EE_2 treatment of the rats also produced significant effects in some of the clinical chemistry study endpoints. The female rats exposed to 0.50 µg/kg EE_2 treatment were generally associated with a reduction in eosinophils, % eosinophils, platelet counts and gamma-glutamyl transferase (GGT); and an increase in *TSH* level. The alkaline phosphatase levels female rats exposed to 0.05 µg/kg of EE_2 treatment was elevated. Similarly, for male rats in the 0.05 µg/kg EE_2 treatment group, slightly elevated hemoglobin concentration and lower insulin levels was noted. The male rats in the 0.50 µg/kg EE_2 group had increased triglycerides level.

There was insufficient evidence of any significant effect of BPA exposure in the stop dose treatment study arm except for some noticeable significant trends over levels of BPA. These trends were noted in % basophils, mean corpuscular hemoglobin, red blood cells; albumin, and *SDH* level for the female rats. The male rats in this study arm exhibited significant trends in *MCHC*, neutrophils, *T4*, and for total bile acids respectively.

Appendix

A. Statistical Tables

Glossary of variable abbreviations

Abbreviation	Hematology/Clinical Chemistry	Unit
BAS	Basophils	$10^3/mm^3$
BAS1	% Basophils	%
EOS	Eosinophils	$10^3/mm^3$
EOS1	% Eosinophils	%
HCT	Hematocrit	%
HGB	Hemoglobin Concentration	g/dL
LYM	Lymphocytes	$10^3/mm^3$
LYM1	% Lymphocytes	%
MCH	Mean Corpuscular Hemoglobin	pg
MCHC	Mean Corpuscular Hemoglobin Conc.	g/dL
MCV	Mean Corpuscular Volume	um^3
MON	Monocytes	$10^3/mm^3$
MON1	% Monocytes	%
NEU	Neutrophils	$10^3/mm^3$
NEU1	% Neutrophils	%
PCV	Packed Cell Volume	%
PLT	Platelets	$10^3/mm^3$
RBC	Red Blood Cells	$10^6/mm^3$
Retic	Reticulocytes	%
WBC	White Blood Cells	$10^3/mm^3$
ALB	Albumin	g/dL
ALP	Alkaline Phosphatase	U/L
ALT	Alanine Aminotransferase	U/L
AST	Aspartate Aminotransferase	U/L
BUN	Blood Urea Nitrogen	mg/dL
CHOL	Cholesterol	mg/dL
CREAT	Creatinine	mg/dL
GGT	Gamma-Glutamyl Transferase	U/L
GLU	Glucose	mg/dL
Insulin	Insulin	mg/mL
Leptin	Leptin	ng/mL
SDH	Sorbitol Dehydrogenase	U/L
T3	Triiodothyronine	ng/dL
T4	Thyroxine	ug/dL
TBA	Total Bile Acids	umol/L
TP	Total Protein	g/dL
TRIG	Triglycerides	mg/dL
TSH	Thyroid-Stimulating Hormone	ng/mL
Troponin-I	Troponin-I	ng/mL
Troponin-T	Troponin-T	pg/mL

Table 1. Summary Statistics for Females on BPA Continuous Dose

	BPA (µg/kg) [a]										
	Vehicle			2.5				25			
Abbrev	N	Mean	SE	N	Mean	SE	Ratio	N	Mean	SE	Ratio
BAS	21	0.01	0.00	22	0.01	0.00	95.5	21	0.02	0.00	141.4
BAS1	21	0.15	0.02	22	0.16	0.01	104.4	21	0.27	0.08	175.0
EOS	21	0.12	0.01	22	0.09	0.01	79.6	21	0.11	0.01	92.7
EOS1	21	1.40	0.10	22	1.29	0.10	91.9	21	1.40	0.08	99.3
HCT	21	47.32	0.42	22	46.05	0.43	97.3	21	45.75	0.48	96.7
HGB	21	16.38	0.13	22	16.01	0.14	97.8	21	16.05	0.15	98.0
LYM	21	5.54	0.29	22	4.60	0.30	83.0	21	4.94	0.26	89.1
LYM1	21	66.14	2.25	22	61.02	2.54	92.3	21	62.88	1.82	95.1
MCH	21	19.73	0.16	22	19.62	0.14	99.5	21	19.90	0.17	100.8
MCHC	21	34.59	0.08	22	34.77	0.09	100.5	21	35.12	0.21	101.5
MCV	21	56.95	0.42	22	56.45	0.34	99.1	21	56.86	0.45	99.8
MON	21	0.63	0.06	22	0.61	0.06	95.5	21	0.76	0.08	119.1
MON1	21	7.39	0.44	22	7.89	0.57	106.8	21	9.48	0.95	128.3
NEU	21	2.09	0.19	22	2.14	0.15	102.4	21	2.08	0.18	99.6
NEU1	21	24.91	2.31	22	29.64	2.59	119.0	21	25.98	1.37	104.3
PCV	21	47.33	0.43	22	46.05	0.44	97.3	21	45.88	0.47	96.9
PLT	21	650.38	21.29	22	651.50	28.46	100.2	21	650.95	22.81	100.1
RBC	21	8.31	0.10	22	8.17	0.09	98.3	21	8.08	0.09	97.2
Retic	21	1.30	0.06	22	1.30	0.05	100.7	21	1.21	0.05	93.4
WBC	21	8.40	0.35	22	7.45	0.33	88.7	21	7.90	0.42	94.2
ALB	21	4.15	0.07	22	3.99	0.06	96.2	21	4.06	0.06	97.8
ALP	21	54.29	2.79	22	62.86	3.57	115.8	21	72.10	7.30	132.8
ALT	21	31.00	3.03	22	37.50	6.79	121.0	21	37.62	4.76	121.4
AST	21	90.81	7.97	22	82.45	4.72	90.8	21	86.71	10.61	95.5
BUN	21	14.43	0.61	22	13.55	0.34	93.9	21	14.00	0.35	97.0
CHOL	21	109.52	4.39	22	111.73	7.19	102.0	21	128.90	11.09	117.7
CREAT	21	0.46	0.02	22	0.46	0.01	100.4	21	0.47	0.02	102.1
GGT	21	4.43	0.28	22	4.14	0.28	93.4	21	4.57	0.32	103.2
GLU	21	130.00	6.04	22	125.95	4.78	96.9	21	130.24	4.99	100.2
Insulin	21	1.54	0.24	22	2.17	0.42	141.3	21	2.01	0.32	130.9
Leptin	21	19.25	2.39	22	27.85	3.53	144.6	21	24.51	3.05	127.3
SDH	21	27.36	4.16	22	30.53	5.74	111.6	21	33.15	5.54	121.2
T3	21	71.57	3.50	22	72.11	4.15	100.8	21	79.23	4.35	110.7
T4	20	3.83	0.20	22	3.90	0.24	101.9	21	3.77	0.21	98.6
TBA	21	47.05	5.79	22	53.47	9.86	113.7	21	49.70	5.35	105.6
TP	21	7.53	0.11	22	7.57	0.09	100.5	21	7.78	0.11	103.3
TRIG	21	266.00	24.33	22	258.59	24.30	97.2	21	299.62	41.51	112.6
TSH	21	3.70	0.72	22	4.45	0.90	120.0	21	3.64	0.43	98.2

[a] Group mean-to-vehicle control mean (%; However, the ratio is based on unrounded means)

Table 1. Summary Statistics for Females on BPA Continuous Dose (cont.)

	BPA (µg/kg) [a]											
	250				2500				25000			
Abbrev	N	Mean	SE	Ratio	N	Mean	SE	Ratio	N	Mean	SE	Ratio
BAS	22	0.01	0.00	95.5	20	0.01	0.00	79.7	24	0.01	0.00	105.6
BAS1	22	0.16	0.01	104.4	20	0.13	0.01	82.0	24	0.18	0.01	117.6
EOS	22	0.09	0.01	72.7	20	0.10	0.01	85.4	24	0.10	0.01	86.8
EOS1	22	1.10	0.07	78.3	20	1.22	0.10	86.8	24	1.33	0.09	94.9
HCT	22	47.40	0.54	100.2	20	46.80	0.49	98.9	24	47.46	0.30	100.3
HGB	22	16.48	0.18	100.6	20	16.26	0.17	99.3	24	16.54	0.10	101.0
LYM	22	5.04	0.28	90.9	20	5.22	0.28	94.3	24	5.11	0.20	92.2
LYM1	22	64.70	1.79	97.8	20	64.56	1.53	97.6	24	67.59	1.45	102.2
MCH	22	19.44	0.21	98.5	20	19.59	0.14	99.3	24	19.73	0.12	100.0
MCHC	22	34.76	0.10	100.5	20	34.73	0.09	100.4	24	34.87	0.08	100.8
MCV	22	55.95	0.54	98.2	20	56.35	0.36	98.9	24	56.58	0.25	99.4
MON	22	0.66	0.07	103.3	20	0.67	0.08	105.6	24	0.55	0.05	86.7
MON1	22	8.41	0.78	113.8	20	8.04	0.65	108.8	24	7.11	0.49	96.2
NEU	22	2.00	0.16	95.7	20	2.12	0.19	101.8	24	1.83	0.17	87.9
NEU1	22	25.63	1.72	102.9	20	26.06	1.56	104.6	24	23.79	1.22	95.5
PCV	22	47.41	0.54	100.2	20	46.88	0.51	99.0	24	47.46	0.29	100.3
PLT	22	635.09	21.45	97.6	20	633.05	16.21	97.3	24	585.92	20.48	90.1
RBC	22	8.48	0.11	102.1	20	8.31	0.09	100.0	24	8.39	0.06	101.0
Retic	22	1.40	0.06	108.4	20	1.33	0.08	102.7	24	1.23	0.04	94.6
WBC	22	7.79	0.36	92.8	20	8.14	0.43	96.9	24	7.61	0.33	90.7
ALB	22	3.98	0.07	96.0	20	4.21	0.07	101.6	24	4.19	0.09	101.0
ALP	22	71.05	5.54	130.9	20	63.90	3.58	117.7	24	58.08	3.61	107.0
ALT	22	34.23	2.47	110.4	20	31.95	2.28	103.1	24	29.04	1.85	93.7
AST	22	76.23	3.68	83.9	20	79.20	4.53	87.2	24	78.92	6.01	86.9
BUNCH	22	15.50	0.62	107.4	20	14.50	0.66	100.5	24	14.42	0.42	99.9
OL	22	107.64	4.61	98.3	20	111.30	7.57	101.6	24	107.67	8.42	98.3
CREAT	22	0.47	0.02	102.4	20	0.46	0.02	100.6	24	0.45	0.01	98.4
GGT	22	4.00	0.34	90.3	20	4.15	0.30	93.7	24	4.17	0.31	94.1
GLU	22	124.77	4.76	96.0	20	122.10	4.31	93.9	24	136.13	6.63	104.7
Insulin	22	1.57	0.20	102.4	20	1.58	0.23	102.9	24	2.13	0.48	138.4
Leptin	22	18.52	2.54	96.2	20	19.80	2.09	102.8	24	20.68	2.68	107.4
SDH	22	24.11	2.11	88.1	20	22.26	2.09	81.3	24	24.20	3.08	88.4
T3	22	70.76	2.99	98.9	20	78.15	3.54	109.2	24	73.35	2.47	102.5
T4	22	3.84	0.22	100.3	20	3.86	0.22	100.9	24	4.07	0.20	106.4
TBA	22	53.02	5.30	112.7	20	51.40	5.66	109.3	24	42.31	5.57	89.9
TP	22	7.40	0.09	98.2	20	7.68	0.11	101.9	24	7.58	0.07	100.6
TRIG	22	237.50	30.31	89.3	20	330.70	40.28	124.3	24	331.63	67.67	124.7
TSH	22	4.16	0.39	112.3	20	4.93	0.66	133.2	24	4.47	0.42	120.7

[a]Group mean-to-vehicle control mean (%; However, the ratio is based on unrounded means)

Table 2. Non-parametric Summary Statistics for Females on BPA Continuous Dose

	BPA (µg/kg)								
	Vehicle			2.5			25		
Abbrev	Med.	min	max	Med.	min	max	Med.	min	max
BAS	0.01	0.01	0.03	0.01	0.00	0.02	0.01	0.01	0.11
BAS1	0.10	0.10	0.40	0.15	0.10	0.30	0.20	0.10	1.90
EOS	0.11	0.05	0.19	0.10	0.04	0.17	0.10	0.06	0.25
EOS1	1.30	0.70	2.30	1.25	0.60	2.60	1.30	0.90	2.40
HCT	47.50	44.20	51.70	46.45	41.30	49.00	45.80	42.20	50.10
HGB	16.30	15.40	17.70	16.05	14.30	16.80	16.00	14.90	17.40
LYM	5.39	2.21	7.84	4.68	1.25	7.48	5.04	1.79	7.36
LYM1	67.80	28.50	77.80	63.15	25.00	74.00	62.60	47.80	76.80
MCH	19.50	18.60	21.90	19.55	18.40	20.90	19.80	18.60	21.30
MCHC	34.70	33.90	35.20	34.75	34.20	35.70	35.00	34.10	39.00
MCV	57.00	54.00	63.00	56.00	53.00	59.00	57.00	54.00	61.00
MON	0.61	0.32	1.33	0.63	0.19	1.21	0.67	0.19	1.74
MON1	7.10	4.50	12.50	7.50	3.70	12.50	9.10	5.40	22.10
NEU	1.79	0.96	5.08	1.82	1.34	3.85	2.02	1.06	3.65
NEU1	22.00	16.00	65.70	25.45	18.90	68.50	26.30	16.50	35.60
PCV	47.50	44.50	52.00	46.50	41.00	49.00	46.00	42.50	50.00
PLT	672.00	338.00	751.00	650.00	245.00	847.00	648.00	421.00	946.00
RBC	8.39	7.06	9.07	8.23	7.29	8.90	8.18	7.28	8.77
Retic	1.40	0.80	1.90	1.30	1.00	1.90	1.20	0.80	1.70
WBC	8.30	5.30	11.30	7.40	4.40	10.30	7.80	3.20	11.40
ALB	4.20	3.60	5.00	4.05	3.40	4.40	4.10	3.30	4.80
ALP	57.00	32.00	86.00	62.00	34.00	106.00	60.00	39.00	146.00
ALT	27.00	13.00	75.00	28.00	16.00	170.00	33.00	14.00	108.00
AST	86.00	52.00	224.00	79.50	54.00	139.00	73.00	31.00	266.00
BUN	14.00	11.00	20.00	13.50	11.00	17.00	14.00	11.00	18.00
CHOL	107.00	61.00	146.00	97.50	72.00	200.00	121.00	76.00	318.00
CREAT	0.50	0.30	0.60	0.50	0.40	0.50	0.50	0.40	0.60
GGT	5.00	2.00	7.00	4.00	1.00	7.00	4.00	2.00	8.00
GLU	123.00	74.00	174.00	123.50	87.00	175.00	129.00	90.00	192.00
Insulin	1.35	0.12	4.67	1.58	0.12	9.43	1.63	0.12	6.81
Leptin	21.93	0.81	35.21	27.70	4.45	60.00	18.88	5.51	60.00
SDH	24.20	5.30	85.70	26.35	6.80	143.30	25.70	6.40	124.00
T3	68.50	39.42	99.60	74.47	36.66	103.41	78.08	43.64	140.63
T4	3.75	2.44	5.84	3.94	2.25	6.32	3.65	1.99	5.79
TBA	41.60	15.90	133.50	35.90	17.20	199.90	50.60	21.30	122.40
TP	7.50	6.60	8.70	7.55	6.90	8.40	7.70	6.90	9.20
TRIG	243.00	99.00	467.00	257.50	84.00	481.00	262.00	102.00	904.00
TSH	2.34	0.63	13.57	3.63	0.10	20.45	3.06	0.88	8.41

Table 2. Non-parametric Summary Statistics for Females on BPA Continuous Dose (cont.)

	BPA (µg/kg)								
	250			2500			25000		
Abbrev	Med.	min	max	Med.	min	max	Med.	min	max
BAS	0.01	0.01	0.02	0.01	0.01	0.02	0.01	0.00	0.03
BAS1	0.20	0.10	0.20	0.10	0.10	0.20	0.20	0.10	0.40
EOS	0.08	0.05	0.19	0.10	0.04	0.20	0.09	0.06	0.30
EOS1	1.00	0.70	2.00	1.25	0.40	1.90	1.20	0.80	2.30
HCT	48.10	41.10	51.30	46.55	41.60	50.80	47.40	45.30	51.20
HGB	16.65	14.50	17.70	16.15	14.50	17.80	16.50	15.70	17.50
LYM	4.91	2.77	8.31	5.00	3.28	7.53	5.09	3.17	6.70
LYM1	66.45	39.80	73.80	64.10	51.40	81.00	67.40	46.10	77.40
MCH	19.35	17.40	21.10	19.70	17.90	20.90	19.70	18.40	21.00
MCHC	34.75	34.00	35.70	34.80	34.00	35.30	34.85	34.30	36.00
MCV	56.00	51.00	61.00	57.00	52.00	59.00	56.50	54.00	59.00
MON	0.57	0.28	1.60	0.54	0.30	1.54	0.52	0.19	1.50
MON1	7.45	4.20	21.70	8.00	3.10	15.30	6.90	3.20	13.10
NEU	1.77	1.01	3.83	1.94	1.19	4.87	1.70	1.02	5.21
NEU1	24.00	17.50	55.10	24.10	12.80	43.60	23.40	14.70	39.90
PCV	48.25	41.00	51.00	46.75	41.00	51.00	47.50	45.00	51.00
PLT	606.50	459.00	911.00	609.50	526.00	769.00	583.00	307.00	767.00
RBC	8.58	7.11	9.20	8.25	7.50	8.93	8.44	7.84	9.05
Retic	1.40	0.90	2.00	1.40	0.80	2.10	1.20	0.90	1.70
WBC	7.85	5.30	11.40	7.80	5.10	12.00	7.80	5.00	13.10
ALB	4.00	3.00	4.40	4.20	3.60	4.80	4.10	3.60	5.70
ALP	65.00	41.00	137.00	63.50	44.00	103.00	56.50	22.00	85.00
ALT	32.00	12.00	58.00	27.00	18.00	55.00	29.00	11.00	48.00
AST	75.00	47.00	102.00	73.50	50.00	113.00	74.50	24.00	158.00
BUN	15.00	11.00	22.00	14.00	10.00	21.00	14.50	9.00	19.00
CHOL	103.00	72.00	159.00	107.50	65.00	198.00	99.50	49.00	243.00
CREAT	0.50	0.20	0.60	0.45	0.40	0.60	0.50	0.30	0.50
GGT	4.00	1.00	7.00	4.00	1.00	6.00	4.00	2.00	8.00
GLU	121.00	83.00	178.00	123.50	93.00	164.00	125.00	89.00	203.00
Insulin	1.42	0.12	4.84	1.30	0.48	4.08	1.44	0.46	10.99
Leptin	15.40	5.07	50.33	22.05	3.12	37.82	18.00	3.52	60.00
SDH	25.50	6.10	43.30	23.55	7.30	39.20	21.30	5.80	64.00
T3	70.87	43.39	97.68	79.72	52.86	111.12	72.74	41.87	94.67
T4	3.62	1.31	5.61	3.55	2.50	6.25	3.92	2.63	5.86
TBA	51.00	16.40	96.10	47.95	23.10	109.20	38.95	14.20	142.90
TP	7.40	6.10	8.20	7.70	6.80	8.50	7.50	6.80	8.60
TRIG	188.50	75.00	574.00	299.50	115.00	877.00	264.50	74.00	1721.00
TSH	3.32	1.87	7.57	3.72	0.96	11.04	3.64	1.11	7.77

Table 3. Pairwise Comparisons for Females on BPA Continuous Dose

Abbrev		Trend [b]	BPA (µg/kg) [a]				
			2.5	25	250	2500	25000
Hematology	BAS	0.605	1.000	0.792	1.000	0.209	0.993
	BAS1	0.217	0.978	0.176	0.874	0.547	0.378
	EOS	0.686	0.244	0.927	**0.015**	0.481	0.278
	EOS1	0.743	0.886	0.999	0.051	0.742	0.961
	HCT	0.088	0.232	0.099	0.959	0.892	0.998
	HGB	**0.023**	0.377	0.481	0.871	0.958	0.742
	LYM	0.774	0.068	0.303	0.434	0.795	0.611
	LYM1	0.062	0.182	0.279	0.874	0.408	1.000
	MCH	0.525	0.997	0.952	0.923	1.000	0.997
	MCHC	0.338	0.484	**0.007**	0.600	0.625	0.089
	MCV	0.691	0.873	0.997	0.381	0.906	0.983
	MON	**0.045**	0.999	0.883	1.000	1.000	0.492
	MON1	0.112	0.983	0.449	0.814	0.962	0.966
	NEU	0.070	0.992	1.000	0.990	1.000	0.497
	NEU1	0.243	0.141	0.540	0.889	0.574	1.000
	PCV	0.086	0.267	0.159	0.946	0.956	0.993
	PLT	**0.008**	1.000	0.987	0.667	0.672	**0.040**
	RBC	0.224	0.751	0.236	0.550	1.000	0.987
	Retic	0.144	1.000	0.673	0.763	1.000	0.724
	WBC	0.293	0.183	0.707	0.557	0.906	0.194
Chemistry	ALB	0.356	0.261	0.673	0.462	0.974	1.000
	ALP	0.402	0.233	0.180	**0.041**	0.149	0.793
	ALT	0.279	0.977	0.632	0.488	0.947	1.000
	AST	0.489	0.915	0.724	0.541	0.807	0.525
	BUN	0.472	0.824	0.999	0.571	1.000	0.982
	CHOL	0.202	0.965	0.634	0.930	0.999	0.685
	CREAT	0.395	1.000	1.000	0.828	1.000	0.996
	GGT	0.403	0.962	1.000	0.878	0.986	0.783
	GLU	0.394	1.000	0.997	0.996	0.955	0.979
	Insulin	0.733	0.609	0.657	0.987	1.000	0.994
	Leptin	0.595	0.475	0.789	0.958	1.000	1.000
	SDH	0.231	0.978	0.932	1.000	0.977	0.953
	T3	0.939	0.986	0.530	1.000	0.478	0.971
	T4	0.367	1.000	1.000	1.000	1.000	0.925
	TBA	0.126	0.999	0.970	0.829	0.904	0.883
	TP	0.884	0.994	0.331	0.934	0.581	0.994
	TRIG	0.806	1.000	0.999	0.816	0.625	1.000
	TSH	0.111	0.858	0.988	0.544	0.368	0.240

[a] Adjusted p-values for multiple mean comparisons
[b] Trend test p-values

Table 4. Summary Statistics for Males on BPA Continuous Dose

	BPA (µg/kg) [a]										
	Vehicle			2.5				25			
Abbrev	N	Mean	SE	N	Mean	SE	Ratio	N	Mean	SE	Ratio
BAS	18	0.02	0.00	22	0.02	0.00	116.9	18	0.02	0.00	114.3
BAS1	18	0.15	0.02	22	0.18	0.02	121.2	18	0.18	0.02	118.5
EOS	18	0.17	0.02	22	0.18	0.02	103.3	18	0.15	0.01	85.1
EOS1	18	1.71	0.14	22	1.74	0.23	102.1	18	1.53	0.13	89.6
HCT	18	47.71	0.39	22	47.70	0.48	100.0	18	46.91	0.63	98.3
HGB	18	16.14	0.14	22	16.28	0.16	100.9	18	15.98	0.20	99.0
LYM	18	6.57	0.36	22	6.83	0.25	103.9	18	6.48	0.30	98.6
LYM1	18	67.04	1.14	22	66.02	1.48	98.5	18	66.36	1.84	99.0
MCH	18	17.33	0.09	22	17.58	0.13	101.4	18	17.19	0.14	99.2
MCHC	18	33.89	0.07	22	34.14	0.11	100.7	18	34.05	0.09	100.5
MCV	18	51.17	0.23	22	51.50	0.32	100.7	18	50.50	0.28	98.7
MON	18	0.80	0.10	22	0.90	0.08	112.1	18	0.93	0.10	116.1
MON1	18	8.16	0.90	22	8.64	0.72	106.0	18	9.47	0.89	116.1
NEU	18	2.27	0.16	22	2.43	0.16	106.9	18	2.21	0.16	97.2
NEU1	18	22.94	0.79	22	23.42	1.40	102.1	18	22.47	1.17	97.9
PCV	18	47.69	0.35	22	47.66	0.50	99.9	18	47.06	0.64	98.7
PLT	18	751.28	32.56	21	716.19	25.14	95.3	17	749.06	45.34	99.7
RBC	18	9.32	0.07	22	9.27	0.09	99.5	18	9.30	0.14	99.7
Retic	18	1.29	0.06	22	1.33	0.06	102.9	18	1.26	0.06	97.0
WBC	18	9.82	0.54	22	10.34	0.31	105.3	18	9.79	0.38	99.8
ALB	18	3.69	0.03	22	3.67	0.03	99.4	18	3.63	0.04	98.3
ALP	18	130.61	24.08	22	107.18	5.48	82.1	18	99.89	5.44	76.5
ALT	18	30.11	1.56	22	33.82	2.43	112.3	18	27.28	2.03	90.6
AST	18	69.67	3.23	22	73.41	4.77	105.4	18	73.50	6.66	105.5
BUN	18	14.17	0.38	22	13.95	0.27	98.5	18	14.28	0.50	100.8
CHOL	18	118.00	6.39	22	116.86	4.83	99.0	18	118.33	6.66	100.3
CREAT	18	0.42	0.02	22	0.42	0.01	100.1	18	0.43	0.01	102.6
GGT	18	4.06	0.33	22	4.59	0.30	113.2	18	4.17	0.35	102.7
GLU	18	126.06	4.83	22	125.86	3.92	99.8	18	127.11	4.37	100.8
Insulin	18	1.99	0.24	22	1.64	0.14	82.6	18	1.55	0.13	77.9
Leptin	18	26.04	2.54	22	29.16	3.01	112.0	18	23.81	2.29	91.4
SDH	18	24.47	2.41	22	26.75	2.68	109.3	18	26.59	2.72	108.7
T3	18	62.82	2.73	22	57.80	3.45	92.0	18	63.30	2.27	100.8
T4	18	5.04	0.27	22	4.34	0.25	86.1	18	4.99	0.22	99.0
TBA	18	32.77	2.75	22	33.28	4.09	101.6	18	32.46	2.37	99.1
TP	18	7.35	0.07	22	7.28	0.05	99.1	18	7.34	0.11	99.8
TRIG	18	267.89	23.37	22	278.23	19.50	103.9	18	276.11	20.57	103.1
TSH	18	3.56	0.34	22	3.40	0.30	95.5	18	3.43	0.30	96.4

[a]Group mean-to-vehicle control mean (%; However, the ratio is based on unrounded means)

Table 4. Summary Statistics for Males on BPA Continuous Dose (cont.)

	BPA (µg/kg) [a]											
	250				2500				25000			
Abbrev	N	Mean	SE	Ratio	N	Mean	SE	Ratio	N	Mean	SE	Ratio
BAS	24	0.02	0.00	109.8	18	0.01	0.00	85.7	21	0.02	0.00	110.2
BAS1	24	0.16	0.02	105.6	18	0.14	0.02	96.3	21	0.17	0.01	111.1
EOS	24	0.13	0.01	75.7	18	0.13	0.01	73.1	21	0.14	0.02	81.0
EOS1	24	1.23	0.10	72.3	18	1.29	0.09	75.6	21	1.44	0.16	84.6
HCT	24	47.94	0.41	100.5	18	47.78	0.54	100.1	21	49.05	0.51	102.8
HGB	24	16.33	0.14	101.2	18	16.34	0.19	101.3	21	16.67	0.17	103.3
LYM	24	6.93	0.23	105.5	18	6.94	0.55	105.6	21	6.24	0.39	95.1
LYM1	24	66.04	1.47	98.5	18	69.01	1.77	102.9	21	65.92	1.28	98.3
MCH	24	17.38	0.11	100.2	18	17.47	0.16	100.8	21	17.81	0.18	102.8
MCHC	24	34.05	0.09	100.5	18	34.22	0.10	101.0	21	34.00	0.11	100.3
MCV	24	51.13	0.28	99.9	18	51.00	0.42	99.7	21	52.33	0.47	102.3
MON	24	0.97	0.11	121.3	18	0.73	0.08	91.2	21	0.86	0.07	107.2
MON1	24	9.02	0.84	110.6	18	7.47	0.69	91.6	21	9.13	0.60	111.9
NEU	24	2.50	0.15	110.1	18	2.12	0.18	93.5	21	2.19	0.16	96.3
NEU1	24	23.55	1.04	102.6	18	22.09	1.82	96.3	21	23.34	1.19	101.7
PCV	24	47.92	0.42	100.5	18	47.81	0.54	100.2	21	49.00	0.52	102.7
PLT	24	702.33	37.29	93.5	18	754.28	18.12	100.4	21	671.05	28.38	89.3
RBC	24	9.40	0.07	100.8	18	9.37	0.10	100.5	21	9.37	0.11	100.5
Retic	24	1.33	0.05	102.7	18	1.27	0.08	98.3	21	1.28	0.08	98.6
WBC	24	10.54	0.34	107.4	18	9.93	0.63	101.2	21	9.44	0.53	96.2
ALB	24	3.56	0.04	96.4	18	3.72	0.05	100.6	21	3.75	0.03	101.4
ALP	24	98.67	3.85	75.5	18	107.61	7.65	82.4	21	99.71	4.86	76.3
ALT	24	29.63	1.32	98.4	18	32.00	2.35	106.3	21	31.00	1.95	103.0
AST	24	68.67	2.39	98.6	18	76.67	5.74	110.0	21	76.29	6.43	109.5
BUN	24	14.46	0.36	102.1	18	14.33	0.60	101.2	21	14.10	0.32	99.5
CHOL	24	107.38	4.38	91.0	18	127.33	6.69	107.9	21	107.24	5.24	90.9
CREAT	24	0.44	0.01	104.6	18	0.43	0.02	101.3	21	0.41	0.01	98.1
GGT	24	4.38	0.33	107.9	18	4.78	0.39	117.8	21	4.43	0.27	109.2
GLU	24	127.33	6.07	101.0	18	136.28	5.77	108.1	21	118.95	3.41	94.4
Insulin	24	1.43	0.13	72.0	18	1.67	0.33	84.0	21	1.77	0.14	89.3
Leptin	24	26.32	2.56	101.1	18	26.70	2.98	102.5	21	29.35	2.82	112.7
SDH	24	27.41	2.97	112.0	18	24.37	2.71	99.6	21	25.86	2.79	105.7
T3	24	60.53	2.98	96.4	18	67.33	4.13	107.2	20	67.00	4.01	106.7
T4	24	4.94	0.16	98.0	18	4.73	0.20	93.9	21	5.51	0.19	109.3
TBA	24	35.78	3.38	109.2	18	41.96	4.65	128.0	21	28.12	2.73	85.8
TP	24	7.18	0.06	97.6	18	7.34	0.10	99.8	21	7.26	0.07	98.8
TRIG	24	252.88	18.75	94.4	18	304.61	24.27	113.7	21	283.05	13.50	105.7
TSH	24	3.47	0.39	97.4	18	3.52	0.35	98.7	21	3.46	0.39	97.1

[a]Group mean-to-vehicle control mean (%; However, the ratio is based on unrounded means)

Table 5. Non-parametric Summary Statistics for Males on BPA Continuous Dose

	BPA (µg/kg)								
	250			2500			25000		
Abbrev	Med.	min	max	Med.	min	max	Med.	min	max
BAS	0.01	0.01	0.06	0.01	0.01	0.04	0.01	0.01	0.04
BAS1	0.10	0.10	0.40	0.15	0.10	0.40	0.10	0.10	0.40
EOS	0.13	0.07	0.41	0.15	0.05	0.50	0.15	0.06	0.23
EOS1	1.75	0.80	3.00	1.40	0.60	5.40	1.45	0.60	2.80
HCT	47.75	44.40	51.20	47.75	42.60	51.90	47.85	39.30	51.60
HGB	16.20	15.10	17.40	16.35	14.30	17.50	16.15	13.70	17.50
LYM	6.73	4.30	9.85	6.88	4.95	8.86	6.31	4.28	9.36
LYM1	67.95	55.80	73.00	68.85	52.90	76.10	67.75	51.70	79.50
MCH	17.35	16.60	17.90	17.75	16.60	19.10	17.25	16.20	18.10
MCHC	33.80	33.50	34.40	34.05	33.40	35.90	34.05	33.20	34.80
MCV	51.00	50.00	53.00	52.00	49.00	55.00	50.50	49.00	52.00
MON	0.71	0.31	1.80	0.82	0.22	1.77	0.85	0.38	2.06
MON1	6.70	3.40	17.40	8.35	2.40	15.90	9.20	3.50	19.00
NEU	2.33	1.19	4.26	2.35	1.34	4.19	1.93	1.44	3.81
NEU1	23.15	18.00	31.30	21.10	16.10	38.30	22.90	13.20	31.90
PCV	47.75	44.50	50.50	47.75	42.50	52.00	47.75	39.50	51.50
PLT	736.50	436.00	951.00	760.00	425.00	903.00	751.00	169.00	994.00
RBC	9.28	8.79	9.89	9.29	8.32	9.97	9.42	7.56	9.98
Retic	1.30	0.80	1.80	1.40	0.70	1.70	1.25	0.80	1.70
WBC	9.75	6.20	14.00	10.40	7.00	12.60	9.90	6.30	12.60
ALB	3.70	3.40	3.90	3.70	3.30	3.90	3.60	3.30	3.90
ALP	102.50	67.00	517.00	108.00	63.00	194.00	100.00	64.00	152.00
ALT	30.50	19.00	42.00	33.00	11.00	63.00	25.00	14.00	46.00
AST	67.00	54.00	106.00	71.00	23.00	124.00	64.50	49.00	177.00
BUN	14.00	12.00	18.00	14.00	12.00	17.00	14.50	10.00	19.00
CHOL	114.50	84.00	178.00	116.50	78.00	159.00	109.00	79.00	184.00
CREAT	0.40	0.30	0.50	0.40	0.30	0.50	0.40	0.40	0.60
GGT	4.00	2.00	7.00	4.00	3.00	9.00	5.00	1.00	6.00
GLU	125.00	98.00	170.00	124.00	92.00	163.00	126.50	101.00	176.00
Insulin	1.90	0.91	5.06	1.63	0.52	3.79	1.37	0.35	2.58
Leptin	23.54	12.19	60.00	27.40	5.73	57.84	22.98	4.88	42.50
SDH	24.70	4.20	42.80	23.40	8.80	61.30	26.10	9.40	54.30
T3	61.18	43.60	86.60	57.37	26.05	86.62	65.66	37.94	78.89
T4	5.08	2.55	6.67	4.15	2.14	6.84	4.98	3.33	6.71
TBA	29.40	21.90	68.20	27.70	13.70	100.50	29.75	20.80	53.60
TP	7.35	6.80	7.90	7.35	6.80	7.90	7.40	6.30	8.00
TRIG	239.50	132.00	464.00	263.00	127.00	547.00	262.50	126.00	444.00
TSH	4.07	1.11	5.24	3.19	1.43	6.89	3.50	1.47	6.26

Table 5. Non-parametric Summary Statistics for Males on BPA Continuous Dose (cont.)

	BPA (µg/kg)								
	250			2500			25000		
Abbrev	Med.	min	max	Med.	min	max	Med.	min	max
BAS	0.01	0.01	0.05	0.01	0.01	0.02	0.02	0.00	0.04
BAS1	0.10	0.10	0.50	0.10	0.10	0.40	0.20	0.10	0.30
EOS	0.12	0.05	0.26	0.12	0.08	0.19	0.14	0.01	0.31
EOS1	1.20	0.60	2.00	1.25	0.80	2.10	1.20	0.30	3.40
HCT	48.45	43.90	50.60	48.30	42.20	50.70	49.20	42.90	52.50
HGB	16.40	15.10	17.40	16.60	14.20	17.30	16.80	14.70	18.20
LYM	7.13	5.20	9.83	6.92	3.54	13.20	6.11	2.54	10.12
LYM1	66.45	49.60	82.50	69.00	51.80	83.40	66.10	53.60	73.70
MCH	17.45	16.50	18.40	17.40	16.60	18.50	17.60	16.50	19.80
MCHC	33.95	33.20	34.90	34.20	33.50	34.90	33.90	33.30	35.50
MCV	51.00	49.00	54.00	51.00	48.00	54.00	52.00	49.00	58.00
MON	0.84	0.35	2.32	0.69	0.14	1.61	0.86	0.38	1.55
MON1	8.15	3.40	20.40	7.90	1.40	12.60	9.60	4.10	13.90
NEU	2.28	1.37	4.33	2.22	1.27	4.73	2.05	1.08	3.56
NEU1	23.55	13.20	32.80	21.00	10.40	45.90	22.70	17.40	38.70
PCV	48.50	44.00	50.50	48.50	42.50	51.00	49.00	42.50	52.50
PLT	734.00	199.00	1102.00	762.00	649.00	896.00	673.00	267.00	912.00
RBC	9.37	8.62	10.01	9.30	8.55	10.37	9.31	7.45	10.05
Retic	1.30	0.90	1.70	1.25	0.80	2.10	1.20	0.90	2.10
WBC	10.40	7.60	15.00	9.90	6.00	17.30	9.80	4.10	13.80
ALB	3.60	3.20	3.90	3.70	3.30	4.10	3.70	3.60	4.00
ALP	101.00	65.00	137.00	106.00	64.00	159.00	101.00	59.00	137.00
ALT	30.50	18.00	44.00	31.50	12.00	57.00	32.00	16.00	46.00
AST	66.50	50.00	93.00	71.50	49.00	137.00	68.00	44.00	165.00
BUN	14.00	12.00	19.00	14.00	10.00	21.00	14.00	12.00	19.00
CHOL	104.50	73.00	145.00	121.50	75.00	182.00	106.00	69.00	151.00
CREAT	0.40	0.30	0.60	0.40	0.30	0.60	0.40	0.30	0.50
GGT	4.00	2.00	7.00	5.50	1.00	7.00	5.00	2.00	7.00
GLU	120.00	94.00	243.00	129.50	106.00	193.00	121.00	92.00	142.00
Insulin	1.49	0.44	2.84	1.31	0.50	6.89	1.63	0.77	3.07
Leptin	24.23	2.55	60.00	25.52	6.83	51.53	28.42	11.74	60.00
SDH	26.35	3.70	68.20	24.45	5.90	51.20	22.30	7.00	57.30
T3	62.98	31.11	86.15	61.41	37.46	95.91	70.52	28.27	100.91
T4	4.93	3.84	6.68	4.55	2.97	6.51	5.58	3.93	7.02
TBA	31.40	14.00	87.80	38.90	16.20	94.90	26.40	10.10	70.80
TP	7.20	6.60	7.80	7.45	6.50	7.90	7.30	6.40	7.80
TRIG	258.00	80.00	461.00	295.00	156.00	619.00	269.00	182.00	433.00
TSH	2.91	0.56	8.62	3.54	0.74	7.71	2.96	0.10	6.27

Table 6. Pairwise Comparisons for Males on BPA Continuous Dose

Abbrev		Trend [b]	BPA (µg/kg) [a]				
			2.5	25	250	2500	25000
Hematology	BAS	0.397	0.642	0.740	0.850	1.000	0.510
	BAS1	0.402	0.770	0.913	1.000	0.998	0.723
	EOS	0.543	1.000	0.990	0.353	0.327	0.739
	EOS1	0.514	0.781	0.892	**0.024**	0.096	0.293
	HCT	**0.006**	0.998	0.943	0.899	0.956	0.069
	HGB	**0.016**	0.729	1.000	0.611	0.394	**0.042**
	LYM	0.204	0.949	1.000	0.809	0.997	0.959
	LYM1	0.576	0.999	1.000	0.987	0.812	0.976
	MCH	**0.018**	0.460	0.969	0.994	0.897	0.075
	MCHC	0.387	0.201	0.401	0.428	0.053	0.950
	MCV	**0.016**	0.820	0.416	1.000	1.000	0.213
	MON	0.905	0.725	0.641	0.702	1.000	0.879
	MON1	0.288	0.911	0.580	0.913	1.000	0.514
	NEU	0.478	0.950	0.995	0.797	0.838	0.994
	NEU1	0.905	0.983	0.994	0.999	0.734	1.000
	PCV	**0.008**	1.000	0.990	0.882	0.932	0.063
	PLT	**0.011**	0.937	1.000	0.916	1.000	0.163
	RBC	0.462	1.000	0.900	0.807	0.998	0.788
	Retic	0.392	0.988	0.987	0.995	0.972	0.945
	WBC	0.267	0.831	1.000	0.638	1.000	0.994
Chemistry	ALB	**0.007**	0.990	0.577	0.066	1.000	0.740
	ALP	0.712	1.000	0.958	0.907	1.000	0.978
	ALT	0.558	0.761	0.604	0.999	0.944	0.988
	AST	0.748	0.942	1.000	1.000	0.899	0.985
	BUN	0.539	1.000	0.981	0.953	1.000	1.000
	CHOL	0.178	1.000	0.999	0.548	0.760	0.613
	CREAT	0.418	1.000	0.999	0.861	1.000	0.995
	GGT	0.645	0.643	0.891	0.925	0.267	0.663
	GLU	0.185	0.999	0.996	0.999	0.452	0.920
	Insulin	0.303	0.873	0.587	0.296	0.258	0.999
	Leptin	0.455	0.913	0.997	1.000	1.000	0.909
	SDH	0.821	0.999	0.991	0.997	1.000	1.000
	T3	0.193	0.835	0.997	1.000	0.933	0.785
	T4	**0.002**	0.150	0.997	0.974	0.687	0.584
	TBA	**0.026**	0.970	1.000	0.965	0.428	0.398
	TP	0.792	0.921	1.000	0.273	1.000	0.923
	TRIG	0.363	0.986	0.980	0.999	0.537	0.811
	TSH	0.996	0.956	0.987	0.904	0.995	0.992

[a] Adjusted p-values for multiple mean comparisons
[b] Trend test p-values

Table 7. Summary Statistics for Females on EE_2 Continuous Dose

	EE2 [a]										
	Vehicle			0.05 (µg/kg)				0.50 (µg/kg)			
Abbrev	N	Mean	SE	N	Mean	SE	Ratio	N	Mean	SE	Ratio
BAS	21	0.01	0.00	24	0.01	0.00	90.5	26	0.01	0.00	97.5
BAS1	21	0.15	0.02	24	0.15	0.01	101.2	26	0.16	0.01	106.0
EOS	21	0.12	0.01	24	0.12	0.01	100.6	26	0.09	0.01	72.9
EOS1	21	1.40	0.10	24	1.52	0.18	108.0	26	1.10	0.08	78.6
HCT	21	47.32	0.42	24	47.13	0.45	99.6	26	46.74	0.76	98.8
HGB	21	16.38	0.13	24	16.40	0.16	100.2	26	16.27	0.24	99.4
LYM	21	5.54	0.29	24	5.24	0.33	94.6	26	5.14	0.23	92.8
LYM1	21	66.14	2.25	24	65.42	1.61	98.9	26	66.50	1.00	100.6
MCH	21	19.73	0.16	24	19.67	0.13	99.7	26	19.81	0.13	100.4
MCHC	21	34.59	0.08	24	34.79	0.08	100.6	26	34.85	0.13	100.8
MCV	21	56.95	0.42	24	56.46	0.30	99.1	26	56.77	0.28	99.7
MON	21	0.63	0.06	24	0.56	0.04	88.8	26	0.52	0.04	82.1
MON1	21	7.39	0.44	24	7.18	0.40	97.2	26	6.59	0.41	89.1
NEU	21	2.09	0.19	24	2.05	0.17	98.4	26	2.01	0.14	96.2
NEU1	21	24.91	2.31	24	25.73	1.53	103.3	26	25.64	0.97	102.9
PCV	21	47.33	0.43	24	47.17	0.46	99.6	26	46.88	0.73	99.1
PLT	21	650.38	21.29	24	598.08	17.38	92.0	26	597.65	18.89	91.9
RBC	21	8.31	0.10	24	8.34	0.08	100.4	26	8.23	0.13	99.0
Retic	21	1.30	0.06	24	1.18	0.05	90.7	26	1.23	0.07	94.7
WBC	21	8.40	0.35	24	7.98	0.43	95.0	26	7.77	0.35	92.5
ALB	21	4.15	0.07	24	4.17	0.07	100.6	26	4.15	0.05	100.1
ALP	21	54.29	2.79	24	67.63	3.83	124.6	26	68.08	5.55	125.4
ALT	21	31.00	3.03	24	30.54	1.57	98.5	26	36.96	2.58	119.2
AST	21	90.81	7.97	24	78.46	3.75	86.4	26	80.35	3.61	88.5
BUN	21	14.43	0.61	24	14.46	0.47	100.2	26	15.58	0.61	108.0
CHOL	21	109.52	4.39	24	127.54	6.56	116.5	26	121.54	4.95	111.0
CREAT	21	0.46	0.02	24	0.49	0.02	107.6	26	0.45	0.01	99.3
GGT	21	4.43	0.28	24	3.75	0.21	84.7	26	3.92	0.25	88.6
GLU	21	130.00	6.04	24	128.75	4.52	99.0	26	120.58	3.32	92.8
Insulin	21	1.54	0.24	24	2.02	0.30	131.2	26	1.34	0.13	87.4
Leptin	21	19.25	2.39	24	23.66	2.88	122.9	26	17.92	1.80	93.1
SDH	21	27.36	4.16	24	26.79	2.04	97.9	26	19.35	2.04	70.7
T3	21	71.57	3.50	24	79.25	2.61	110.7	26	78.01	3.52	109.0
T4	20	3.83	0.20	24	4.19	0.24	109.6	26	3.83	0.21	100.1
TBA	21	47.05	5.79	24	50.65	7.10	107.6	26	72.04	9.05	153.1
TP	21	7.53	0.11	24	7.64	0.10	101.4	26	7.68	0.07	102.0
TRIG	21	266.00	24.33	24	282.88	34.45	106.3	26	369.38	39.19	138.9
TSH	21	3.70	0.72	24	3.39	0.34	91.5	26	5.14	0.50	138.9

[a]Group mean-to-vehicle control mean (%; However, the ratio is based on unrounded means)

Table 8. Non-parametric Summary Statistics for Females on EE_2 Continuous Dose

	EE_2								
	Vehicle			0.05 (µg/kg)			0.50 (µg/kg)		
Abbrev:	Med.	min	max	Med.	min	max	Med.	min	max
BAS	0.01	0.01	0.03	0.01	0.00	0.02	0.01	0.00	0.02
BAS1	0.10	0.10	0.40	0.15	0.10	0.30	0.15	0.10	0.40
EOS	0.11	0.05	0.19	0.11	0.02	0.33	0.08	0.02	0.15
EOS1	1.30	0.70	2.30	1.30	0.50	4.80	1.00	0.50	2.10
HCT	47.50	44.20	51.70	47.65	40.90	50.10	47.15	30.20	51.10
HGB	16.30	15.40	17.70	16.55	14.30	17.70	16.35	11.30	18.00
LYM	5.39	2.21	7.84	5.12	2.68	8.31	5.14	2.71	7.86
LYM1	67.80	28.50	77.80	65.80	39.10	79.20	65.70	53.70	76.40
MCH	19.50	18.60	21.90	19.60	18.40	21.30	19.65	18.70	21.40
MCHC	34.70	33.90	35.20	34.70	34.20	35.90	34.80	33.90	37.30
MCV	57.00	54.00	63.00	56.00	54.00	60.00	57.00	54.00	60.00
MON	0.61	0.32	1.33	0.56	0.25	0.91	0.51	0.07	0.91
MON1	7.10	4.50	12.50	6.90	4.00	10.80	6.80	1.90	11.50
NEU	1.79	0.96	5.08	1.90	0.76	4.97	1.77	1.12	4.00
NEU1	22.00	16.00	65.70	24.80	14.40	52.30	25.25	17.20	36.90
PCV	47.50	44.50	52.00	48.00	40.50	50.50	47.00	31.00	51.00
PLT	672.00	338.00	751.00	612.50	353.00	729.00	606.00	338.00	830.00
RBC	8.39	7.06	9.07	8.44	7.45	8.87	8.33	5.26	8.85
Retic	1.40	0.80	1.90	1.15	0.80	1.80	1.20	0.60	2.00
WBC	8.30	5.30	11.30	8.00	4.70	12.40	7.55	3.90	10.90
ALB	4.20	3.60	5.00	4.20	3.40	5.10	4.15	3.70	4.70
ALP	57.00	32.00	86.00	66.50	37.00	98.00	58.50	38.00	173.00
ALT	27.00	13.00	75.00	29.50	19.00	52.00	33.50	21.00	78.00
AST	86.00	52.00	224.00	78.00	50.00	122.00	81.50	50.00	124.00
BUN	14.00	11.00	20.00	14.50	10.00	22.00	15.50	11.00	22.00
CHOL	107.00	61.00	146.00	121.00	83.00	186.00	121.50	86.00	204.00
CREAT	0.50	0.30	0.60	0.50	0.40	0.80	0.40	0.40	0.60
GGT	5.00	2.00	7.00	4.00	1.00	5.00	4.00	1.00	6.00
GLU	123.00	74.00	174.00	122.50	91.00	170.00	120.50	95.00	161.00
Insulin	1.35	0.12	4.67	1.84	0.79	7.68	1.24	0.32	3.11
Leptin	21.93	0.81	35.21	19.11	6.21	60.00	16.21	5.92	38.03
SDH	24.20	5.30	85.70	24.80	8.30	42.40	19.50	2.10	34.20
T3	68.50	39.42	99.60	78.23	47.83	106.38	74.51	49.06	124.97
T4	3.75	2.44	5.84	3.87	2.57	6.33	4.11	1.52	5.44
TBA	41.60	15.90	133.50	43.75	17.80	159.60	57.70	19.30	154.70
TP	7.50	6.60	8.70	7.65	6.60	9.00	7.75	6.90	8.30
TRIG	243.00	99.00	467.00	291.50	65.00	803.00	314.00	81.00	823.00
TSH	2.34	0.63	13.57	3.22	0.93	7.31	4.77	1.08	12.77

Table 9. Pairwise Comparisons for Females on EE_2 Continuous Dose

		EE_2 (µg/kg) [a]	
		0.05	0.50
Hematology	Basophils	0.789	0.998
	% Basophils	0.891	0.821
	Eosinophils	0.929	**0.020**
	% Eosinophils	0.985	**0.024**
	Hematocrit	0.987	0.961
	Hemoglobin Concentration	0.867	0.998
	Lymphocytes	0.409	0.366
	% Lymphocytes	0.687	0.749
	Mean Corpuscular Hemoglobin	0.997	0.881
	Mean Corpuscular Hemoglobin Conc.	0.186	0.183
	Mean Corpuscular Volume	0.550	0.951
	Monocytes	0.757	0.305
	% Monocytes	0.915	0.405
	Neutrophils	0.974	0.904
	% Neutrophils	0.428	0.256
	Packed Cell Volume	0.949	0.998
	Platelets	0.054	**0.043**
	Red Blood Cells	0.912	0.981
	Retic	0.124	0.491
	White Blood Cells	0.459	0.249
Chemistry	Albumin	0.928	0.998
	Alkaline Phosphatase	**0.015**	0.068
	Alanine Aminotransferase	0.752	0.094
	AST	0.400	0.519
	Blood Urea Nitrogen	0.919	0.390
	Cholesterol	0.200	0.214
	Creatinine	0.502	0.846
	Gamma-Glutamyl Transferase	0.132	0.389
	Glucose	0.995	0.511
	Insulin	0.187	0.890
	Leptin	0.727	0.823
	Aspartate Aminotransferase	0.770	0.365
	T3	0.105	0.445
	T4	0.566	0.977
	Total Bile Acids	0.980	0.214
	TP	0.606	0.211
	Triglycerides	0.980	0.130
	TSH	0.930	**0.025**

[a] Adjusted p-values for multiple mean comparisons

Table 10. Summary Statistics for Males on EE_2 Continuous Dose

	EE2 [a]										
	Vehicle			0.05 (µg/kg)				0.50 (µg/kg)			
Abbrev	N	Mean	SE	N	Mean	SE	Ratio	N	Mean	SE	Ratio
BAS	18	0.02	0.00	22	0.02	0.00	122.7	23	0.03	0.01	164.9
BAS1	18	0.15	0.02	22	0.17	0.03	112.1	23	0.21	0.05	139.1
EOS	18	0.17	0.02	22	0.14	0.01	82.3	23	0.15	0.01	84.8
EOS1	18	1.71	0.14	22	1.37	0.11	80.2	23	1.33	0.10	78.3
HCT	18	47.71	0.39	22	48.76	0.40	102.2	23	48.58	0.31	101.8
HGB	18	16.14	0.14	22	16.57	0.12	102.7	23	16.47	0.09	102.1
LYM	18	6.57	0.36	22	7.11	0.36	108.2	23	7.46	0.37	113.6
LYM1	18	67.04	1.14	22	67.75	1.37	101.1	23	67.49	1.28	100.7
MCH	18	17.33	0.09	22	17.56	0.11	101.3	23	17.43	0.13	100.6
MCHC	18	33.89	0.07	22	34.00	0.11	100.3	23	33.96	0.10	100.2
MCV	18	51.17	0.23	22	51.68	0.30	101.0	23	51.43	0.30	100.5
MON	18	0.80	0.10	22	0.99	0.09	123.2	23	0.95	0.07	118.6
MON1	18	8.16	0.90	22	9.27	0.66	113.7	23	8.59	0.56	105.3
NEU	18	2.27	0.16	22	2.24	0.16	98.8	23	2.47	0.15	109.0
NEU1	18	22.94	0.79	22	21.44	1.24	93.4	23	22.38	0.92	97.6
PCV	18	47.69	0.35	22	48.70	0.39	102.1	23	48.61	0.29	101.9
PLT	18	751.28	32.56	22	709.68	26.72	94.5	23	740.57	22.25	98.6
RBC	18	9.32	0.07	22	9.44	0.09	101.3	23	9.46	0.08	101.5
Retic	18	1.29	0.06	22	1.25	0.07	96.2	23	1.17	0.08	90.0
WBC	18	9.82	0.54	22	10.50	0.49	107.0	23	11.06	0.51	112.7
ALB	18	3.69	0.03	22	3.66	0.04	99.2	23	3.65	0.04	98.9
ALP	18	130.61	24.08	22	107.32	4.46	82.2	23	104.22	5.90	79.8
ALT	18	30.11	1.56	22	30.59	2.68	101.6	23	33.74	2.02	112.0
AST	18	69.67	3.23	22	79.86	8.51	114.6	23	71.17	3.02	102.2
BUN	18	14.17	0.38	22	14.36	0.28	101.4	23	14.57	0.42	102.8
CHOL	18	118.00	6.39	22	120.41	6.37	102.0	23	117.48	7.06	99.6
CREAT	18	0.42	0.02	22	0.43	0.01	102.3	23	0.43	0.02	100.9
GGT	18	4.06	0.33	22	4.23	0.24	104.2	23	3.91	0.23	96.5
GLU	18	126.06	4.83	22	125.36	3.85	99.5	23	123.65	4.11	98.1
Insulin	18	1.99	0.24	22	1.34	0.11	67.5	23	1.59	0.13	80.2
Leptin	18	26.04	2.54	22	25.38	2.64	97.5	23	27.22	1.92	104.5
SDH	18	24.47	2.41	22	31.51	4.77	128.8	23	22.81	2.01	93.2
T3	18	62.82	2.73	22	70.46	4.05	112.2	23	66.35	3.46	105.6
T4	18	5.04	0.27	22	5.09	0.22	101.0	23	4.74	0.21	93.9
TBA	18	32.77	2.75	22	38.60	4.32	117.8	23	35.60	3.23	108.7
TP	18	7.35	0.07	22	7.26	0.07	98.8	23	7.20	0.07	98.0
TRIG	18	267.89	23.37	22	266.77	19.12	99.6	23	338.43	21.77	126.3
TSH	18	3.56	0.34	22	4.05	0.32	113.8	23	3.17	0.38	89.0

[a]Group mean-to-vehicle control mean (%; However, the ratio is based on unrounded means)

Table 11. Non-parametric Summary Statistics for Males on EE_2 Continuous Dose

	EE2								
	Vehicle			0.05 (µg/kg)			0.50 (µg/kg)		
Abbrev:	Med.	min	max	Med.	min	max	Med.	min	max
BAS	0.01	0.01	0.06	0.01	0.01	0.09	0.02	0.01	0.23
BAS1	0.10	0.10	0.40	0.10	0.10	0.60	0.20	0.10	1.30
EOS	0.13	0.07	0.41	0.13	0.05	0.28	0.15	0.05	0.32
EOS1	1.75	0.80	3.00	1.25	0.50	2.60	1.30	0.40	2.80
HCT	47.75	44.40	51.20	49.15	44.60	51.40	48.70	44.80	51.30
HGB	16.20	15.10	17.40	16.75	15.20	17.50	16.50	15.30	17.10
LYM	6.73	4.30	9.85	6.71	4.73	10.55	7.39	4.76	10.44
LYM1	67.95	55.80	73.00	68.65	48.90	76.90	68.20	53.80	77.20
MCH	17.35	16.60	17.90	17.50	16.40	18.60	17.30	16.30	18.90
MCHC	33.80	33.50	34.40	34.00	33.00	35.30	34.10	33.10	34.70
MCV	51.00	50.00	53.00	51.50	48.00	54.00	51.00	49.00	55.00
MON	0.71	0.31	1.80	0.87	0.33	2.13	0.91	0.32	1.90
MON1	6.70	3.40	17.40	9.00	4.50	15.70	8.10	5.20	15.90
NEU	2.33	1.19	4.26	2.07	1.28	4.45	2.52	1.04	4.52
NEU1	23.15	18.00	31.30	20.40	13.60	42.80	22.40	15.90	32.00
PCV	47.75	44.50	50.50	49.00	44.50	51.00	49.00	45.00	51.00
PLT	736.50	436.00	951.00	700.00	354.00	1023.00	754.00	404.00	921.00
RBC	9.28	8.79	9.89	9.42	8.66	10.05	9.38	8.96	10.11
Retic	1.30	0.80	1.80	1.30	0.80	1.90	1.10	0.60	1.80
WBC	9.75	6.20	14.00	10.40	6.70	15.70	11.20	6.20	17.30
ALB	3.70	3.40	3.90	3.65	3.30	4.00	3.70	3.20	3.90
ALP	102.50	67.00	517.00	101.50	71.00	171.00	99.00	59.00	196.00
ALT	30.50	19.00	42.00	28.50	14.00	75.00	35.00	17.00	50.00
AST	67.00	54.00	106.00	74.00	46.00	243.00	71.00	46.00	93.00
BUN	14.00	12.00	18.00	14.50	12.00	17.00	14.00	11.00	19.00
CHOL	114.50	84.00	178.00	116.50	57.00	178.00	113.00	67.00	237.00
CREAT	0.40	0.30	0.50	0.40	0.30	0.50	0.40	0.30	0.50
GGT	4.00	2.00	7.00	4.00	2.00	7.00	4.00	1.00	5.00
GLU	125.00	98.00	170.00	124.00	94.00	171.00	120.00	88.00	162.00
Insulin	1.90	0.91	5.06	1.33	0.40	2.46	1.56	0.39	3.53
Leptin	23.54	12.19	60.00	21.25	9.26	60.00	28.96	8.00	40.40
SDH	24.70	4.20	42.80	25.70	8.10	116.40	22.10	6.60	43.80
T3	61.18	43.60	86.60	68.23	36.49	105.87	66.69	39.03	106.14
T4	5.08	2.55	6.67	4.93	3.49	7.50	4.53	2.56	7.06
TBA	29.40	21.90	68.20	33.35	14.50	93.10	30.40	19.20	81.70
TP	7.35	6.80	7.90	7.25	6.50	8.10	7.20	6.60	7.90
TRIG	239.50	132.00	464.00	271.50	102.00	419.00	322.00	143.00	533.00
TSH	4.07	1.11	5.24	3.64	1.86	7.31	3.40	0.92	7.31

Table 12. Pairwise Comparisons for Males on EE_2 Continuous Dose

		EE_2 (µg/kg) [a]	
		0.05	0.50
Hematology	Basophils	0.598	0.265
	% Basophils	0.959	0.553
	Eosinophils	0.561	0.758
	% Eosinophils	0.097	0.061
	Hematocrit	0.077	0.116
	Hemoglobin Concentration	**0.023**	0.056
	Lymphocytes	0.612	0.231
	% Lymphocytes	0.768	0.933
	Mean Corpuscular Hemoglobin	0.194	0.773
	Mean Corpuscular Hemoglobin Conc.	0.625	0.731
	Mean Corpuscular Volume	0.253	0.712
	Monocytes	0.183	0.141
	% Monocytes	0.289	0.679
	Neutrophils	0.931	0.439
	% Neutrophils	0.120	0.758
	Packed Cell Volume	0.062	0.073
	Platelets	0.377	0.985
	Red Blood Cells	0.317	0.436
	Retic	0.781	0.318
	White Blood Cells	0.601	0.158
Chemistry	Albumin	0.759	0.812
	Alkaline Phosphatase	0.950	0.906
	Alanine Aminotransferase	0.926	0.348
	AST	0.622	0.769
	Blood Urea Nitrogen	0.636	0.629
	Cholesterol	0.821	0.974
	Creatinine	0.873	0.944
	Gamma-Glutamyl Transferase	0.792	1.000
	Glucose	0.989	0.931
	Insulin	**0.047**	0.539
	Leptin	0.929	0.624
	Aspartate Aminotransferase	0.623	0.768
	T3	0.324	0.734
	T4	0.968	0.348
	Total Bile Acids	0.660	0.869
	TP	0.613	0.252
	Triglycerides	0.959	**0.032**
	TSH	0.753	0.462

[a] Adjusted p-values for multiple mean comparisons

Table 13. Summary Statistics for Females on BPA Stop Dose

	BPA (µg/kg) [a]										
	Vehicle			2.5				25			
Abbrev	N	Mean	SE	N	Mean	SE	Ratio	N	Mean	SE	Ratio
BAS	20	0.01	0.00	22	0.01	0.00	108.4	20	0.02	0.00	126.9
BAS1	20	0.15	0.03	22	0.18	0.02	125.4	20	0.19	0.02	131.0
EOS	20	0.11	0.01	22	0.10	0.01	90.9	20	0.10	0.01	97.6
EOS1	20	1.35	0.11	22	1.34	0.13	99.3	20	1.28	0.08	94.4
HCT	20	46.92	0.39	22	47.11	0.40	100.4	20	47.33	0.58	100.9
HGB	20	16.23	0.13	22	16.39	0.14	101.0	20	16.36	0.20	100.8
LYM	20	5.30	0.26	22	4.87	0.28	91.8	20	5.44	0.32	102.6
LYM1	20	66.31	1.29	22	67.00	1.60	101.0	20	66.30	1.31	100.0
MCH	20	19.46	0.12	22	19.85	0.15	102.0	20	19.49	0.17	100.2
MCHC	20	34.60	0.11	22	34.77	0.12	100.5	20	34.59	0.09	100.0
MCV	20	56.20	0.31	22	57.00	0.39	101.4	20	56.30	0.45	100.2
MON	20	0.59	0.04	22	0.57	0.04	97.2	20	0.71	0.07	120.9
MON1	20	7.40	0.46	22	8.01	0.57	108.4	20	8.82	0.76	119.3
NEU	20	1.99	0.14	22	1.74	0.16	87.3	20	1.93	0.16	96.7
NEU1	20	24.80	1.12	22	23.46	1.35	94.6	20	23.42	1.18	94.4
PCV	20	46.95	0.41	22	47.16	0.40	100.4	20	47.33	0.56	100.8
PLT	20	645.05	32.63	22	586.73	21.57	91.0	20	592.55	29.11	91.9
RBC	20	8.34	0.08	22	8.26	0.08	99.0	20	8.40	0.10	100.7
Retic	20	1.34	0.07	22	1.32	0.08	98.4	20	1.25	0.06	92.9
WBC	20	8.01	0.39	22	7.29	0.37	91.0	20	8.20	0.46	102.4
ALB	20	4.05	0.06	22	4.16	0.06	102.8	20	4.02	0.05	99.1
ALP	20	67.20	3.84	22	75.41	5.31	112.2	20	72.85	3.79	108.4
ALT	20	29.15	2.01	22	33.32	2.88	114.3	20	35.20	3.77	120.8
AST	20	77.45	3.14	22	81.45	5.74	105.2	20	82.75	6.52	106.8
BUN	20	13.90	0.48	22	14.05	0.54	101.0	20	14.50	0.52	104.3
CHOL	20	116.85	6.72	22	116.00	7.43	99.3	20	108.60	6.66	92.9
CREAT	20	0.46	0.02	22	0.49	0.01	107.9	20	0.49	0.02	107.7
GGT	20	4.35	0.32	22	4.27	0.26	98.2	20	3.60	0.40	82.8
GLU	20	129.75	3.75	22	137.23	5.87	105.8	20	128.20	4.47	98.8
Insulin	20	1.98	0.35	22	2.62	0.38	132.7	20	1.50	0.23	76.0
Leptin	20	24.23	3.10	22	28.13	3.42	116.1	20	22.24	2.88	91.8
SDH	20	24.48	2.99	22	29.07	3.52	118.8	20	31.85	4.59	130.1
T3	20	68.14	3.33	22	72.08	3.64	105.8	20	75.76	3.23	111.2
T4	20	3.75	0.21	22	3.63	0.17	96.9	20	4.14	0.16	110.5
TBA	20	43.34	4.09	22	48.89	5.81	112.8	20	56.48	6.10	130.3
TP	20	7.45	0.12	22	7.70	0.09	103.4	20	7.57	0.08	101.6
TRIG	20	261.15	21.39	22	373.73	68.41	143.1	20	253.15	38.43	96.9
TSH	20	4.60	0.83	22	3.46	0.37	75.2	20	3.84	0.46	83.5

[a]Group mean-to-vehicle control mean (%; However, the ratio is based on unrounded means)

Table 13. Summary Statistics for Females on BPA Stop Dose (cont.)

	BPA (µg/kg) [a]											
	250				2500				25000			
Abbrev	N	Mean	SE	Ratio	N	Mean	SE	Ratio	N	Mean	SE	Ratio
BAS	22	0.02	0.01	171.3	20	0.01	0.00	96.2	19	0.01	0.00	85.0
BAS1	22	0.25	0.10	175.5	20	0.13	0.02	89.7	19	0.13	0.01	87.1
EOS	22	0.12	0.01	110.7	20	0.09	0.01	82.9	19	0.09	0.01	86.8
EOS1	22	1.37	0.09	101.7	20	1.17	0.12	86.3	19	1.27	0.10	94.3
HCT	22	46.89	0.47	99.9	20	46.62	0.69	99.4	19	47.38	0.43	101.0
HGB	22	16.23	0.17	100.0	20	16.07	0.24	99.0	19	16.32	0.15	100.5
LYM	22	5.33	0.27	100.6	20	5.35	0.35	101.0	19	4.64	0.28	87.5
LYM1	22	64.86	1.81	97.8	20	65.58	2.14	98.9	19	66.06	1.74	99.6
MCH	22	19.29	0.20	99.1	20	19.20	0.16	98.6	19	19.10	0.13	98.2
MCHC	22	34.62	0.11	100.1	20	34.48	0.08	99.7	19	34.43	0.11	99.5
MCV	22	55.68	0.50	99.1	20	55.70	0.40	99.1	19	55.58	0.32	98.9
MON	22	0.73	0.09	123.1	20	0.76	0.23	129.0	19	0.61	0.07	102.7
MON1	22	8.41	0.76	113.7	20	7.60	0.77	102.7	19	8.47	0.70	114.6
NEU	22	2.06	0.19	103.4	20	2.53	0.71	127.0	19	1.72	0.15	86.2
NEU1	22	25.10	1.78	101.2	20	25.53	1.68	102.9	19	24.07	1.29	97.1
PCV	22	46.95	0.46	100.0	20	46.60	0.68	99.3	19	47.39	0.44	100.9
PLT	22	593.95	26.18	92.1	20	646.05	36.18	100.2	19	621.11	19.47	96.3
RBC	22	8.43	0.08	101.0	20	8.38	0.13	100.4	19	8.54	0.08	102.4
Retic	22	1.31	0.05	98.0	20	1.30	0.06	96.6	19	1.37	0.08	102.1
WBC	22	8.25	0.40	103.1	20	8.74	1.24	109.1	19	7.08	0.40	88.4
ALB	22	4.01	0.06	99.0	20	4.04	0.08	99.8	19	4.22	0.05	104.2
ALP	22	62.45	3.03	92.9	20	69.00	6.02	102.7	19	83.05	7.24	123.6
ALT	22	29.55	2.02	101.4	20	29.70	2.82	101.9	19	35.42	3.63	121.5
AST	22	72.41	3.27	93.5	20	76.50	4.02	98.8	19	86.53	7.92	111.7
BUN	22	14.14	0.49	101.7	20	14.30	0.48	102.9	19	14.32	0.54	103.0
CHOL	22	111.86	5.12	95.7	20	113.40	4.39	97.0	19	125.79	12.52	107.7
CREAT	22	0.45	0.02	97.9	20	0.48	0.01	104.4	19	0.46	0.02	100.6
GGT	22	3.77	0.25	86.7	20	3.80	0.26	87.4	19	3.95	0.29	90.7
GLU	22	128.36	4.23	98.9	20	125.60	5.43	96.8	19	125.42	5.45	96.7
Insulin	22	2.28	0.54	115.2	20	1.99	0.30	100.5	19	2.11	0.31	106.9
Leptin	22	22.40	2.45	92.4	20	22.20	2.75	91.6	19	24.25	2.83	100.0
SDH	22	28.00	1.94	114.4	20	22.33	2.43	91.2	19	31.21	2.71	127.5
T3	22	71.04	2.79	104.3	20	71.35	4.09	104.7	19	78.75	4.71	115.6
T4	22	3.72	0.14	99.3	20	3.72	0.18	99.3	19	3.71	0.16	99.0
TBA	22	44.81	4.19	103.4	20	46.04	4.69	106.2	19	59.22	7.52	136.6
TP	22	7.58	0.10	101.8	20	7.46	0.13	100.1	19	7.72	0.10	103.7
TRIG	22	274.64	55.77	105.2	20	342.15	49.82	131.0	19	315.21	27.73	120.7
TSH	22	4.83	0.74	104.9	20	4.34	0.53	94.2	19	4.68	0.48	101.8

[a]Group mean-to-vehicle control mean (%; However, the ratio is based on unrounded means)

Table 14. Non-parametric Summary Statistics for Females on BPA Stop Dose

	BPA (µg/kg)								
	Vehicle			2.5			25		
Abbrev	Med.	min	max	Med.	min	max	Med.	min	max
BAS	0.01	0.00	0.05	0.01	0.01	0.03	0.02	0.00	0.04
BAS1	0.10	0.00	0.50	0.20	0.10	0.40	0.20	0.00	0.40
EOS	0.09	0.05	0.22	0.09	0.02	0.19	0.11	0.02	0.16
EOS1	1.30	0.60	2.90	1.20	0.60	2.80	1.30	0.30	2.00
HCT	47.45	43.00	49.40	47.40	42.30	50.60	47.65	41.70	54.30
HGB	16.35	15.00	17.20	16.45	15.00	17.60	16.40	14.40	18.50
LYM	5.35	2.69	7.56	4.66	2.77	8.41	5.31	3.50	8.51
LYM1	66.10	57.70	76.50	65.80	48.50	78.90	65.95	53.60	79.10
MCH	19.30	18.80	20.60	20.05	17.60	20.80	19.35	18.40	21.20
MCHC	34.65	33.90	35.60	34.80	33.70	35.70	34.60	33.80	35.30
MCV	56.00	54.00	59.00	57.50	51.00	61.00	56.00	53.00	61.00
MON	0.55	0.31	0.94	0.57	0.21	0.95	0.67	0.15	1.35
MON1	6.80	4.30	11.70	7.30	4.10	13.00	9.20	2.40	13.80
NEU	2.03	0.96	3.47	1.64	0.79	4.35	1.72	0.95	4.32
NEU1	24.55	16.10	33.70	22.75	15.50	43.00	22.45	15.20	32.70
PCV	47.50	43.00	50.00	47.50	42.50	50.50	47.75	42.00	54.00
PLT	649.00	181.00	870.00	596.50	314.00	744.00	626.50	180.00	785.00
RBC	8.37	7.49	8.98	8.34	7.32	9.01	8.37	7.72	9.68
Retic	1.25	0.90	1.90	1.40	0.60	2.10	1.25	0.70	1.90
WBC	7.95	4.60	11.70	7.10	4.10	10.90	8.10	5.60	13.50
ALB	4.05	3.40	4.70	4.20	3.60	4.80	4.00	3.60	4.40
ALP	66.50	42.00	103.00	67.50	27.00	130.00	73.50	44.00	107.00
ALT	29.00	17.00	57.00	31.00	16.00	72.00	28.50	14.00	77.00
AST	77.00	56.00	104.00	76.50	50.00	148.00	73.50	46.00	163.00
BUN	14.00	10.00	19.00	14.00	9.00	18.00	14.00	11.00	20.00
CHOL	109.00	67.00	182.00	114.00	72.00	220.00	109.50	72.00	177.00
CREAT	0.45	0.30	0.60	0.50	0.40	0.60	0.50	0.30	0.60
GGT	4.00	2.00	7.00	4.00	2.00	7.00	4.00	1.00	8.00
GLU	125.50	106.00	166.00	129.00	103.00	192.00	129.50	95.00	161.00
Insulin	1.57	0.12	7.41	2.00	1.05	7.61	1.31	0.12	4.04
Leptin	20.14	4.33	60.00	26.54	8.13	60.00	21.20	5.27	51.17
SDH	23.35	3.90	57.80	25.00	11.70	78.60	25.10	8.90	89.50
T3	64.70	45.75	94.76	69.93	46.69	121.06	69.93	54.87	103.04
T4	3.86	1.86	6.17	3.54	2.45	5.33	4.28	3.02	5.68
TBA	44.10	20.50	77.60	38.85	20.60	132.70	49.85	22.10	114.00
TP	7.45	6.50	8.80	7.60	6.90	8.40	7.55	7.10	8.50
TRIG	263.00	113.00	437.00	268.00	73.00	1620.00	222.50	73.00	748.00
TSH	3.59	1.30	18.93	3.38	0.37	7.59	3.55	1.26	8.29

Table 14. Non-parametric Summary Statistics for Females on BPA Stop Dose (cont.)

	BPA (µg/kg)								
	250			2500			25000		
Abbrev	Med.	min	max	Med.	min	max	Med.	min	max
BAS	0.01	0.00	0.18	0.01	0.00	0.04	0.01	0.00	0.02
BAS1	0.10	0.00	2.20	0.10	0.00	0.50	0.10	0.10	0.20
EOS	0.12	0.04	0.22	0.08	0.00	0.19	0.09	0.02	0.16
EOS1	1.35	0.60	2.20	1.00	0.00	2.20	1.30	0.50	2.00
HCT	47.45	40.90	50.10	47.75	41.00	50.50	48.20	44.10	50.40
HGB	16.40	14.10	17.30	16.30	14.00	17.70	16.50	14.90	17.40
LYM	5.27	2.89	7.14	5.29	2.91	10.78	4.22	2.66	7.50
LYM1	64.80	43.00	77.60	67.90	34.00	77.90	66.40	46.50	75.50
MCH	19.30	16.60	21.10	19.00	18.10	20.80	19.20	17.80	19.90
MCHC	34.70	33.40	35.60	34.40	33.90	35.30	34.50	33.50	35.30
MCV	56.00	48.00	59.00	56.00	53.00	60.00	56.00	52.00	58.00
MON	0.62	0.12	2.04	0.49	0.18	5.07	0.48	0.20	1.16
MON1	8.25	2.30	17.00	6.50	2.70	16.00	8.40	3.40	13.40
NEU	1.91	1.09	5.15	1.72	1.20	15.85	1.60	0.84	3.42
NEU1	23.95	13.50	49.00	23.35	18.30	50.00	23.60	17.20	39.50
PCV	47.25	41.00	50.00	47.75	41.00	50.50	48.00	44.00	50.50
PLT	618.00	208.00	789.00	619.00	277.00	1068.00	616.00	454.00	826.00
RBC	8.45	7.76	9.42	8.43	7.26	9.17	8.60	7.97	9.27
Retic	1.35	0.80	1.60	1.25	0.90	1.90	1.40	0.70	2.20
WBC	8.75	5.00	12.00	7.85	4.90	31.70	7.60	4.00	10.50
ALB	4.10	3.40	4.30	4.20	3.10	4.40	4.20	3.70	4.60
ALP	62.50	37.00	93.00	61.50	45.00	159.00	87.00	41.00	157.00
ALT	30.00	16.00	45.00	26.00	11.00	60.00	33.00	14.00	85.00
AST	74.00	48.00	114.00	79.00	44.00	112.00	77.00	51.00	177.00
BUN	14.00	10.00	19.00	14.00	10.00	18.00	14.00	10.00	19.00
CHOL	104.50	87.00	181.00	111.50	88.00	161.00	117.00	53.00	322.00
CREAT	0.45	0.30	0.60	0.50	0.40	0.60	0.40	0.40	0.60
GGT	4.00	1.00	6.00	4.00	1.00	6.00	4.00	2.00	6.00
GLU	128.00	95.00	171.00	116.00	90.00	183.00	118.00	92.00	171.00
Insulin	1.53	0.40	12.40	1.39	0.12	4.74	1.91	0.12	4.61
Leptin	23.07	0.91	37.64	20.64	5.81	58.11	21.33	5.17	58.80
SDH	28.25	11.20	44.90	21.95	4.90	48.70	30.30	9.10	49.30
T3	70.26	42.08	89.87	71.03	29.44	103.53	76.23	39.25	130.63
T4	3.67	2.71	5.44	3.52	2.14	5.66	3.84	1.43	4.71
TBA	44.15	19.30	94.90	38.20	22.50	107.20	47.70	16.00	133.90
TP	7.50	6.80	8.70	7.50	5.80	8.10	7.70	6.90	8.50
TRIG	197.50	89.00	1329.00	245.50	66.00	870.00	294.00	169.00	588.00
TSH	3.96	1.45	13.82	3.77	1.01	10.47	4.43	0.79	9.29

Table 15. Pairwise Comparisons for Females on BPA Stop Dose

Abbrev		Trend [b]	BPA (µg/kg) [a]				
			2.5	25	250	2500	25000
Hematology	BAS	0.050	0.770	0.406	0.789	1.000	0.996
	BAS1	**0.031**	0.506	0.274	0.886	0.971	0.987
	EOS	0.377	0.937	0.999	0.969	0.453	0.874
	EOS1	0.908	0.993	1.000	0.990	0.699	1.000
	HCT	0.388	0.990	0.985	0.999	0.994	0.760
	HGB	0.838	0.914	0.986	1.000	1.000	0.984
	LYM	0.083	0.363	1.000	1.000	1.000	0.267
	LYM1	0.735	0.969	1.000	0.997	1.000	0.996
	MCH	**0.013**	0.052	1.000	0.991	0.626	0.366
	MCHC	0.098	0.742	1.000	0.993	0.872	0.758
	MCV	0.070	0.160	1.000	0.976	0.806	0.680
	MON	0.491	1.000	0.587	0.772	0.932	1.000
	MON1	0.541	0.881	0.400	0.694	1.000	0.565
	NEU	0.159	0.211	0.874	0.999	0.811	0.237
	NEU1	0.890	0.601	0.778	0.957	0.998	0.892
	PCV	0.413	0.996	0.996	1.000	0.999	0.840
	PLT	0.932	0.094	0.331	0.243	0.780	0.446
	RBC	**0.044**	0.924	1.000	0.986	0.987	0.342
	Retic	0.584	1.000	0.846	1.000	0.984	1.000
	WBC	0.120	0.577	1.000	0.943	0.981	0.487
Chemistry	ALB	**0.004**	0.376	0.994	1.000	0.961	0.059
	ALP	0.129	0.780	0.802	0.877	0.996	0.449
	ALT	0.225	0.834	0.817	1.000	0.999	0.451
	AST	0.550	1.000	1.000	0.652	1.000	0.999
	BUN	0.860	0.998	0.904	1.000	0.949	0.984
	CHOL	0.330	0.994	0.850	0.953	1.000	0.997
	CREAT	0.319	0.294	0.293	0.999	0.776	1.000
	GGT	0.975	1.000	0.425	0.704	0.753	0.949
	GLU	0.413	0.969	1.000	1.000	0.759	0.903
	Insulin	0.510	0.415	0.693	1.000	1.000	0.973
	Leptin	0.884	0.925	0.992	1.000	0.987	1.000
	SDH	0.059	0.915	0.786	0.477	0.997	0.140
	T3	0.085	0.935	0.406	0.864	0.905	0.151
	T4	0.765	0.845	0.499	0.989	0.998	1.000
	TBA	0.159	0.993	0.475	1.000	0.998	0.382
	TP	0.059	0.324	0.946	0.983	0.970	0.148
	TRIG	0.119	0.671	0.907	0.807	0.893	0.611
	TSH	0.142	0.776	0.981	1.000	0.999	0.823

[a] Adjusted p-values for multiple mean comparisons
[b] Trend test p-values

Table 16. Summary Statistics for Males on BPA Stop Dose

	BPA (µg/kg) [a]										
	Vehicle			2.5				25			
Abbrev	N	Mean	SE	N	Mean	SE	Ratio	N	Mean	SE	Ratio
BAS	19	0.02	0.00	20	0.02	0.00	118.8	19	0.02	0.00	93.8
BAS1	19	0.16	0.02	20	0.18	0.02	110.8	19	0.16	0.02	100.0
EOS	19	0.15	0.01	20	0.16	0.01	100.8	19	0.16	0.02	104.8
EOS1	19	1.46	0.12	20	1.42	0.09	97.1	19	1.58	0.13	108.3
HCT	19	48.51	0.49	20	48.21	0.39	99.4	19	47.55	0.62	98.0
HGB	19	16.36	0.15	20	16.26	0.13	99.4	19	16.13	0.20	98.6
LYM	19	7.06	0.45	20	6.94	0.45	98.4	19	6.45	0.35	91.3
LYM1	19	66.21	2.23	20	60.92	2.28	92.0	19	62.71	2.17	94.7
MCH	19	17.29	0.10	20	17.30	0.15	100.1	19	17.37	0.13	100.5
MCHC	19	33.73	0.09	20	33.75	0.12	100.1	19	33.93	0.06	100.6
MCV	19	51.26	0.25	20	51.20	0.42	99.9	19	51.21	0.35	99.9
MON	19	0.87	0.10	20	1.05	0.11	121.0	19	0.98	0.07	113.0
MON1	19	8.26	0.98	20	9.09	0.76	109.9	19	9.61	0.65	116.3
NEU	19	2.44	0.17	20	3.55	0.65	145.6	19	2.72	0.28	111.4
NEU1	19	23.91	2.03	20	28.41	2.32	118.8	19	25.94	2.16	108.5
PCV	19	48.50	0.48	20	48.18	0.38	99.3	19	47.63	0.61	98.2
PLT	19	753.53	24.64	20	785.70	24.09	104.3	19	769.00	37.71	102.1
RBC	19	9.47	0.10	20	9.41	0.09	99.3	19	9.30	0.13	98.1
Retic	19	1.28	0.06	20	1.23	0.07	96.2	19	1.26	0.06	98.4
WBC	19	10.54	0.43	20	11.72	0.97	111.1	19	10.33	0.44	98.0
ALB	20	3.63	0.05	20	3.55	0.04	97.8	19	3.48	0.06	95.8
ALP	20	108.80	7.92	20	100.40	4.23	92.3	19	104.53	5.75	96.1
ALT	20	32.35	3.11	20	32.30	1.97	99.8	19	28.47	1.54	88.0
AST	20	84.60	8.79	20	85.25	4.54	100.8	19	82.68	7.41	97.7
BUN	20	14.05	0.41	20	13.65	0.30	97.2	19	15.00	1.03	106.8
CHOL	20	123.50	5.60	20	115.45	5.88	93.5	19	115.26	6.66	93.3
CREAT	20	0.41	0.02	20	0.44	0.01	107.4	19	0.46	0.03	113.1
GGT	20	4.25	0.38	20	4.05	0.31	95.3	19	4.21	0.41	99.1
GLU	20	128.70	5.35	20	121.85	3.17	94.7	19	130.79	5.95	101.6
Insulin	20	1.47	0.18	20	1.50	0.16	102.2	19	1.87	0.24	127.0
Leptin	20	26.84	3.50	20	26.77	1.68	99.7	19	32.92	3.74	122.6
SDH	20	24.95	2.76	20	27.36	2.79	109.7	19	31.96	3.23	128.1
T3	20	65.76	3.07	20	63.34	3.30	96.3	19	56.71	3.00	86.2
T4	20	4.89	0.21	20	4.83	0.20	98.8	19	4.72	0.20	96.5
TBA	20	36.38	3.14	20	34.57	3.21	95.0	19	24.99	2.68	68.7
TP	20	7.26	0.07	20	7.13	0.06	98.3	19	6.97	0.07	96.0
TRIG	20	285.20	19.99	20	252.25	15.39	88.4	19	282.26	26.12	99.0
TSH	20	3.97	0.43	20	4.17	0.41	105.0	19	3.80	0.51	95.8

[a]Group mean-to-vehicle control mean (%; However, the ratio is based on unrounded means)

Table 16. Summary Statistics for Males on BPA Stop Dose (cont.)

	BPA (µg/kg) [a]											
	250				2500				25000			
Abbrev	N	Mean	SE	Ratio	N	Mean	SE	Ratio	N	Mean	SE	Ratio
BAS	19	0.02	0.00	118.8	20	0.02	0.00	106.9	22	0.02	0.00	108.0
BAS1	19	0.17	0.02	106.7	20	0.18	0.02	110.8	22	0.17	0.02	109.4
EOS	19	0.15	0.02	100.3	20	0.13	0.01	84.3	22	0.17	0.01	112.6
EOS1	19	1.39	0.13	95.3	20	1.23	0.12	84.1	22	1.54	0.11	105.3
HCT	19	48.02	0.56	99.0	20	47.00	0.81	96.9	22	46.80	1.04	96.5
HGB	19	16.16	0.20	98.7	20	15.81	0.28	96.6	22	15.88	0.35	97.1
LYM	19	6.96	0.50	98.6	20	7.47	0.35	105.9	22	7.65	0.56	108.4
LYM1	19	63.49	2.13	95.9	20	69.47	0.86	104.9	22	67.55	1.65	102.0
MCH	19	17.06	0.16	98.7	20	17.40	0.33	100.6	22	17.45	0.18	100.9
MCHC	19	33.65	0.11	99.8	20	33.66	0.10	99.8	22	33.95	0.09	100.6
MCV	19	50.68	0.42	98.9	20	51.70	0.99	100.9	22	51.41	0.52	100.3
MON	19	1.04	0.09	119.4	20	0.87	0.07	100.1	22	1.07	0.17	123.4
MON1	19	9.75	0.96	118.0	20	8.12	0.58	98.3	22	8.88	0.90	107.5
NEU	19	2.76	0.30	113.1	20	2.26	0.14	92.8	22	2.43	0.17	99.4
NEU1	19	25.19	2.12	105.4	20	21.01	0.76	87.8	22	21.85	1.57	91.4
PCV	19	48.03	0.57	99.0	20	46.93	0.80	96.8	22	46.75	1.03	96.4
PLT	19	712.84	35.23	94.6	20	742.30	12.19	98.5	22	764.27	30.30	101.4
RBC	19	9.47	0.11	100.0	20	9.18	0.24	96.9	22	9.15	0.24	96.5
Retic	19	1.23	0.07	95.5	20	1.17	0.06	91.1	22	1.22	0.08	94.9
WBC	19	10.93	0.64	103.6	20	10.75	0.47	102.0	22	11.35	0.75	107.7
ALB	19	3.59	0.05	98.9	20	3.64	0.06	100.3	22	3.58	0.07	98.5
ALP	19	103.47	11.33	95.1	20	100.45	5.31	92.3	22	102.86	5.98	94.5
ALT	19	32.58	5.46	100.7	20	26.70	1.21	82.5	22	28.95	2.65	89.5
AST	19	77.16	7.10	91.2	20	68.75	3.06	81.3	22	69.91	3.62	82.6
BUN	19	13.79	0.56	98.1	20	14.40	0.38	102.5	22	19.59	3.71	139.4
CHOL	19	117.84	8.88	95.4	20	132.65	4.72	107.4	22	147.73	14.25	119.6
CREAT	19	0.45	0.01	111.8	20	0.43	0.02	104.9	22	0.55	0.09	135.8
GGT	19	3.68	0.30	86.7	20	4.80	0.22	112.9	22	4.32	0.33	101.6
GLU	19	120.05	4.05	93.3	20	131.30	4.67	102.0	22	125.18	3.36	97.3
Insulin	19	1.48	0.15	100.4	20	1.67	0.16	113.6	22	1.59	0.17	107.9
Leptin	19	25.53	3.40	95.1	20	28.01	2.96	104.4	22	28.15	2.80	104.9
SDH	19	28.93	2.81	115.9	20	26.72	2.26	107.1	22	28.58	2.91	114.6
T3	19	60.58	4.46	92.1	20	69.39	2.92	105.5	22	66.59	2.79	101.3
T4	19	4.68	0.24	95.7	20	4.74	0.25	97.0	22	4.23	0.21	86.5
TBA	19	32.58	6.50	89.6	20	33.67	4.26	92.6	22	34.96	2.47	96.1
TP	19	7.22	0.08	99.5	20	7.17	0.14	98.8	22	7.21	0.10	99.4
TRIG	19	279.89	16.54	98.1	20	355.15	22.01	124.5	22	329.77	24.21	115.6
TSH	19	4.47	0.48	112.7	20	4.98	0.60	125.6	22	3.90	0.38	98.2

[a]Group mean-to-vehicle control mean (%; However, the ratio is based on unrounded means)

Table 17. Non-parametric Summary Statistics for Males on BPA Stop Dose

	BPA (µg/kg)								
	Vehicle			2.5			25		
Abbrev	Med.	min	max	Med.	min	max	Med.	min	max
BAS	0.01	0.01	0.04	0.02	0.00	0.05	0.01	0.01	0.04
BAS1	0.10	0.10	0.40	0.20	0.00	0.30	0.10	0.10	0.40
EOS	0.15	0.07	0.29	0.16	0.00	0.23	0.14	0.08	0.38
EOS1	1.20	0.70	2.60	1.45	0.00	1.90	1.20	1.00	2.80
HCT	48.90	42.80	51.30	48.40	44.80	50.90	47.80	38.70	50.60
HGB	16.40	14.60	17.20	16.35	15.00	17.20	16.20	13.20	17.20
LYM	6.95	3.68	10.70	6.44	3.94	12.10	6.13	4.07	8.72
LYM1	68.30	42.90	78.70	63.10	39.00	77.30	64.70	39.30	77.80
MCH	17.50	16.40	18.00	17.30	16.20	18.70	17.30	16.60	18.70
MCHC	33.80	33.00	34.30	33.80	32.60	34.70	34.00	33.30	34.30
MCV	51.00	49.00	53.00	51.00	49.00	57.00	51.00	49.00	55.00
MON	0.76	0.33	2.16	0.87	0.39	2.03	1.05	0.41	1.41
MON1	6.90	3.40	21.40	8.00	4.70	18.30	9.20	3.80	15.70
NEU	2.42	1.71	5.09	2.56	1.45	14.63	2.74	1.19	5.75
NEU1	20.60	15.80	52.60	25.45	14.60	54.00	22.30	14.50	53.90
PCV	49.00	43.00	51.00	48.50	45.00	51.00	48.00	39.00	50.50
PLT	773.00	406.00	879.00	795.00	564.00	1062.00	751.00	587.00	1310.00
RBC	9.55	8.54	10.35	9.53	8.63	9.97	9.38	7.51	9.92
Retic	1.30	0.60	1.90	1.20	0.90	1.80	1.20	0.90	1.70
WBC	10.20	7.20	14.50	11.00	6.10	27.10	10.70	5.90	13.70
ALB	3.70	3.20	3.90	3.55	3.20	3.90	3.50	2.80	3.80
ALP	106.00	58.00	235.00	100.50	61.00	139.00	104.00	70.00	161.00
ALT	29.50	16.00	76.00	31.50	15.00	51.00	28.00	16.00	40.00
AST	72.00	49.00	210.00	83.00	54.00	127.00	70.00	44.00	166.00
BUN	14.00	11.00	18.00	13.50	11.00	16.00	15.00	8.00	30.00
CHOL	125.50	85.00	182.00	110.50	64.00	164.00	117.00	51.00	178.00
CREAT	0.40	0.30	0.50	0.40	0.30	0.50	0.40	0.30	0.80
GGT	4.50	1.00	8.00	4.50	1.00	6.00	4.00	2.00	7.00
GLU	124.00	83.00	185.00	126.00	98.00	146.00	126.00	91.00	175.00
Insulin	1.29	0.12	3.15	1.45	0.12	3.29	1.55	0.12	4.92
Leptin	18.79	12.17	60.00	27.76	11.23	43.28	34.08	10.72	60.00
SDH	22.50	6.30	56.10	27.60	7.00	51.10	32.00	8.10	52.70
T3	61.38	45.59	92.98	56.76	43.17	91.01	55.11	38.57	79.76
T4	5.06	3.29	7.36	4.55	3.90	7.16	4.78	3.31	6.67
TBA	35.10	14.60	61.40	29.40	15.70	58.90	20.10	14.10	56.10
TP	7.30	6.60	7.80	7.20	6.50	7.50	7.00	6.40	7.50
TRIG	288.00	122.00	455.00	245.50	146.00	417.00	304.00	85.00	542.00
TSH	3.88	0.87	7.83	3.94	1.36	8.43	3.22	1.42	11.64

Table 17. Non-parametric Summary Statistics for Males on BPA Stop Dose (cont.)

	BPA (µg/kg)								
	250			2500			25000		
Abbrev	Med.	min	max	Med.	min	max	Med.	min	max
BAS	0.02	0.01	0.06	0.02	0.01	0.03	0.02	0.00	0.05
BAS1	0.20	0.10	0.40	0.20	0.10	0.40	0.20	0.00	0.40
EOS	0.15	0.02	0.38	0.12	0.05	0.26	0.19	0.04	0.31
EOS1	1.30	0.20	2.60	1.20	0.40	2.70	1.50	0.70	2.30
HCT	48.90	41.80	51.20	47.75	33.40	51.70	48.35	30.40	51.70
HGB	16.40	13.80	17.20	16.10	11.00	17.30	16.15	10.20	17.80
LYM	6.84	3.73	11.36	7.20	5.17	10.37	7.42	4.30	17.21
LYM1	62.90	37.80	75.90	68.65	62.70	75.60	69.10	46.40	82.40
MCH	17.10	15.70	18.40	17.00	16.40	23.00	17.50	15.60	19.60
MCHC	33.70	32.90	34.80	33.70	32.80	34.30	34.00	33.20	34.80
MCV	51.00	48.00	55.00	50.00	49.00	69.00	51.00	47.00	59.00
MON	1.02	0.36	1.77	0.83	0.41	1.73	0.89	0.21	3.82
MON1	8.10	4.30	19.90	8.15	4.40	14.80	8.25	3.60	21.80
NEU	2.34	1.59	6.20	2.25	1.45	3.85	2.40	0.64	4.61
NEU1	24.10	15.70	56.80	20.65	15.10	28.00	20.50	11.00	48.70
PCV	49.00	41.50	51.00	47.50	33.50	51.50	48.00	30.50	51.50
PLT	752.00	169.00	884.00	746.00	600.00	821.00	750.00	502.00	1035.00
RBC	9.54	8.57	10.19	9.47	4.81	9.89	9.42	5.19	10.32
Retic	1.20	0.80	1.90	1.20	0.70	1.60	1.15	0.70	2.20
WBC	10.90	6.60	15.90	10.30	7.60	14.20	10.75	5.20	23.90
ALB	3.60	3.20	4.00	3.65	3.00	4.10	3.60	2.50	4.10
ALP	85.00	58.00	277.00	95.00	65.00	156.00	101.00	71.00	177.00
ALT	28.00	14.00	126.00	28.00	16.00	37.00	28.50	7.00	67.00
AST	66.00	42.00	166.00	67.50	51.00	111.00	68.00	41.00	117.00
BUN	13.00	11.00	20.00	14.50	12.00	18.00	14.00	11.00	89.00
CHOL	106.00	83.00	234.00	132.00	96.00	186.00	129.00	83.00	366.00
CREAT	0.40	0.40	0.60	0.40	0.30	0.60	0.40	0.30	2.20
GGT	4.00	1.00	6.00	5.00	3.00	7.00	5.00	2.00	7.00
GLU	123.00	88.00	155.00	133.00	94.00	177.00	124.50	94.00	173.00
Insulin	1.56	0.40	2.85	1.71	0.12	2.88	1.37	0.22	3.19
Leptin	19.00	9.83	60.00	27.87	6.98	58.71	29.17	5.17	60.00
SDH	26.10	12.90	58.20	24.05	8.70	46.00	26.60	2.90	58.10
T3	58.95	28.78	93.18	68.43	50.04	104.40	64.76	49.07	102.04
T4	4.82	3.12	6.47	4.52	3.18	7.61	4.27	1.68	5.75
TBA	25.10	14.70	143.80	26.90	16.00	91.40	34.00	15.10	61.30
TP	7.20	6.50	7.80	7.20	5.00	8.10	7.30	5.70	7.80
TRIG	254.00	208.00	499.00	345.50	210.00	562.00	308.00	165.00	508.00
TSH	4.49	1.86	7.93	4.75	1.50	13.80	3.52	1.29	8.64

Table 18. Pairwise Comparisons for Males on BPA Stop Dose

Abbrev		Trend [b]	BPA (µg/kg) [a]				
			2.5	25	250	2500	25000
Hematology	BAS	0.688	0.819	1.000	0.817	0.872	0.898
	BAS1	0.617	0.706	1.000	0.919	0.801	0.826
	EOS	0.217	0.979	1.000	1.000	0.604	0.809
	EOS1	0.411	0.942	0.974	1.000	0.630	0.937
	HCT	0.625	0.871	0.522	0.956	0.186	0.659
	HGB	0.663	0.972	0.904	0.982	0.140	0.816
	LYM	0.220	0.996	0.760	1.000	0.906	0.961
	LYM1	0.052	0.227	0.522	0.686	0.793	0.996
	MCH	0.200	0.999	1.000	0.657	0.815	0.935
	MCHC	0.087	1.000	0.290	0.896	0.981	0.428
	MCV	0.548	0.873	0.975	0.502	0.667	1.000
	MON	0.998	0.430	0.269	0.326	0.993	0.688
	MON1	0.763	0.587	0.097	0.465	0.963	0.817
	NEU	0.633	0.320	0.890	0.999	0.924	1.000
	NEU1	**0.045**	0.180	0.825	0.915	0.907	0.965
	PCV	0.553	0.851	0.631	0.986	0.166	0.633
	PLT	0.928	0.917	0.986	0.717	0.804	1.000
	RBC	0.737	0.997	0.933	1.000	0.945	0.972
	Retic	0.550	0.918	0.999	0.830	0.679	0.759
	WBC	0.508	0.919	1.000	0.997	0.999	0.888
Chemistry	ALB	0.628	0.519	0.163	0.951	1.000	0.980
	ALP	0.940	0.964	0.999	0.677	0.908	0.966
	ALT	0.544	0.939	0.976	0.962	0.576	0.944
	AST	0.189	0.602	1.000	0.980	0.761	0.892
	BUN	0.155	0.954	0.932	0.859	0.950	0.733
	CHOL	0.108	0.763	0.763	0.639	0.473	0.906
	CREAT	0.491	0.584	0.523	0.193	0.935	0.360
	GGT	0.613	0.998	1.000	0.541	0.605	1.000
	GLU	0.882	0.920	1.000	0.778	0.926	0.996
	Insulin	0.941	1.000	0.643	1.000	0.724	0.993
	Leptin	0.762	0.950	0.563	1.000	0.969	0.936
	SDH	0.945	0.898	0.304	0.717	0.930	0.809
	T3	0.206	0.963	0.208	0.901	0.774	1.000
	T4	**0.046**	0.982	0.985	0.959	0.902	0.177
	TBA	**0.024**	0.982	**0.011**	0.197	0.713	1.000
	TP	0.270	0.462	**0.015**	0.994	0.995	1.000
	TRIG	0.156	0.498	1.000	0.984	0.144	0.804
	TSH	0.586	1.000	0.950	0.949	0.564	1.000

[a] Adjusted p-values for multiple mean comparisons
[b] Trend test p-values

Table 19. Summary Statistics for Troponin I

Regimen	Sex	Treatment	N	Percent	Mean	SE	Median	Min	Max
Continuous	Female	Veh 0	20	0.00	0.08	0.00	0.08	0.08	0.08
		BPA 2.5	22	0.00	0.08	0.00	0.08	0.08	0.08
		BPA 25	21	0.00	0.08	0.00	0.08	0.08	0.08
		BPA 250	22	0.00	0.08	0.00	0.08	0.08	0.08
		BPA 2500	20	0.00	0.08	0.00	0.08	0.08	0.08
		BPA 25000	24	0.00	0.08	0.00	0.08	0.08	0.08
		EE_2 0.05	24	0.00	0.08	0.00	0.08	0.08	0.08
		EE_2 0.50	26	3.85	0.09	0.01	0.08	0.08	0.46
	Male	Veh 0	18	5.56	0.09	0.01	0.08	0.08	0.31
		BPA 2.5	22	0.00	0.08	0.00	0.08	0.08	0.08
		BPA 25	18	5.56	0.09	0.01	0.08	0.08	0.23
		BPA 250	24	20.83	0.12	0.02	0.08	0.08	0.64
		BPA 2500	18	5.56	0.21	0.13	0.08	0.08	2.50
		BPA 25000	20	10.00	0.14	0.04	0.08	0.08	0.95
		EE_2 0.05	22	4.55	0.09	0.01	0.08	0.08	0.25
		EE_2 0.50	23	0.00	0.08	0.00	0.08	0.08	0.08
Stop Dose	Female	Veh 0	20	0.00	0.08	0.00	0.08	0.08	0.08
		BPA 2.5	22	4.55	0.09	0.01	0.08	0.08	0.23
		BPA 25	20	5.00	0.08	0.00	0.08	0.08	0.17
		BPA 250	22	9.09	0.11	0.03	0.08	0.08	0.71
		BPA 2500	20	5.00	0.10	0.02	0.08	0.08	0.48
		BPA 25000	19	5.26	0.08	0.00	0.08	0.08	0.17
	Male	Veh 0	20	5.00	0.13	0.05	0.08	0.08	1.17
		BPA 2.5	20	15.00	0.11	0.02	0.08	0.08	0.37
		BPA 25	19	10.53	0.13	0.04	0.08	0.08	0.81
		BPA 250	19	0.00	0.08	0.00	0.08	0.08	0.08
		BPA 2500	20	15.00	0.24	0.10	0.08	0.08	1.80
		BPA 25000	22	0.00	0.08	0.00	0.08	0.08	0.08

Table 20. Summary Statistics for Troponin T

Regimen	Sex	Treatment	N	Percent	Mean	SE	Median	Min	Max
Continuous	Female	Veh 0	21	85.71	10.31	1.63	9.54	0.50	27.63
		BPA 2.5	22	59.09	8.06	1.67	8.54	0.50	25.99
		BPA 25	21	66.67	10.19	2.18	9.54	0.50	35.07
		BPA 250	22	54.55	6.62	1.87	2.67	0.50	30.83
		BPA 2500	20	60.00	5.89	1.47	4.21	0.50	25.16
		BPA 25000	24	54.17	6.50	1.87	2.80	0.50	38.47
		EE_2 0.05	24	62.50	6.34	1.43	3.08	0.50	23.33
		EE_2 0.50	26	50.00	6.90	1.90	1.24	0.50	41.60
	Male	Veh 0	18	61.11	7.39	2.54	4.74	0.50	44.47
		BPA 2.5	22	45.45	5.89	1.46	0.50	0.50	19.12
		BPA 25	18	61.11	9.77	2.43	6.13	0.50	30.83
		BPA 250	24	58.33	8.54	2.19	5.81	0.50	42.45
		BPA 2500	18	66.67	6.44	1.53	4.74	0.50	18.60
		BPA 25000	20	85.00	11.86	2.21	10.03	0.50	35.87
		EE_2 0.05	22	40.91	5.08	1.28	0.50	0.50	16.17
		EE_2 0.50	23	78.26	7.23	1.59	4.52	0.50	30.13
Stop Dose	Female	Veh 0	20	50.00	6.98	1.85	1.79	0.50	25.16
		BPA 2.5	22	59.09	6.28	1.50	3.15	0.50	23.28
		BPA 25	20	50.00	3.66	1.06	0.97	0.50	17.35
		BPA 250	22	54.55	5.32	1.10	5.77	0.50	15.32
		BPA 2500	20	60.00	6.50	2.17	3.18	0.50	39.40
		BPA 25000	19	52.63	8.74	2.93	1.43	0.50	41.60
	Male	Veh 0	20	60.00	7.97	1.88	6.97	0.50	25.99
		BPA 2.5	20	40.00	5.93	1.73	0.50	0.50	23.28
		BPA 25	19	36.84	4.25	1.34	0.50	0.50	18.60
		BPA 250	19	63.16	7.71	2.31	3.63	0.50	39.40
		BPA 2500	20	45.00	4.82	1.61	0.50	0.50	27.63
		BPA 25000	22	36.36	5.11	1.85	0.50	0.50	34.58

Table 21. Listing of Detectable Troponin I (and QNS or ND)

Regimen	Sex	Treatment	CID	Troponin I[a]
Continuous	Female	Veh 0	141	QNS
		EE2 0.50	5522	0.462
	Male	Veh 0	2221	0.305
		BPA 25	2562	0.231
		BPA 250	541	0.642
		BPA 250	2712	0.19
		BPA 250	4862	0.198
		BPA 250	4871	0.198
		BPA 250	6962	0.241
		BPA 2500	5021	2.501
		BPA 25000	861	0.946
		BPA 25000	872	QNS
		BPA 25000	7242	0.32
		EE2 0.05	5322	0.249
Stop Dose	Female	BPA 2.5	5831	0.233
		BPA 25	3831	0.165
		BPA 250	1822	0.711
		BPA 250	6142	0.172
		BPA 2500	1991	0.475
		BPA 25000	2152	0.171
		BPA 25000	8322	ND
	Male	Veh 0	1271	1.172
		BPA 2.5	1422	0.217
		BPA 2.5	1432	0.332
		BPA 2.5	3581	0.372
		BPA 25	5911	0.805
		BPA 25	5922	0.274
		BPA 2500	1912	1.8
		BPA 2500	1922	1.362
		BPA 2500	4081	0.196

[a] LOD $\geq$ 0.08

Table 22. Pairwise Comparisons for Troponin T Detection

Group	Sex	BPA (µg/kg) [a]						EE2	
		Trend [b]	2.5	25	250	2500	25000	0.05	0.50
Continuous	Female	0.235	0.204	0.194	0.212	0.203	0.212	0.200	0.220
	Male	**0.003**	0.842	1.000	1.000	0.999	0.435	0.654	0.745
Stop Dose	Female	0.918	0.961	1.000	0.998	0.947	1.000	.	.
	Male	0.359	0.660	0.548	1.000	0.851	0.475	.	.

[a] All p-values are adjusted for multiple mean comparisons

[b] Trend test p-values

B. Data

Clinical Chemistry data were provided in Excel spreadsheets by Principal Investigator through the Statistical Support Team leader.

C. Quality Control

1. Data Verification

The data management was done using the SAS system. The data extraction into SAS was verified by the internal reviewer. The SAS codes used to manage the data including the data listing and logs were reviewed for accuracy/consistency.

2 Computer Program Verification

The statistical analysis was done in SAS. The SAS programs use were verified by detailed review of the program code, the program log, and the program output.

3 Statistical Report Review

3.1 Statistical Report Text

The statistical report was reviewed for logic, internal completeness, technical appropriateness, technical accuracy, and grammar. Technical appropriateness was reviewed based on statistical expertise. Comments and questions were provided from the reviewer to the statistician. The statistician made appropriate changes and returned the report to the reviewer for final verification. The text of the final statistical report was considered by the reviewer to be logical, internally complete, technically appropriate and accurate. The statistical results stated in the text accurately represent those in the tables. The PI was provided with drafts of the report and provided comments which were included in the final draft of the report.

3.2 Table Verification

The analysis results were output from SAS to postscript/pdf format files using LATEX. The postscript/pdf format files were then converted to word files and copied into the statistical report. The statistical report tables were verified by checking numbers sufficiently to conclude that the tables are correct.

4 Conclusions

The final statistical report has been fully reviewed and is considered by the reviewer to be logical, internally complete, technically appropriate and accurate.