

Table 1. Summary Statistics for Litter Size, Litter Size by Sex and Number Born Dead											
	Litters	Litter Size		# of Males		# of Females		# Unsexed		# Born Dead	
Group	N	Mean	SE	Mean	SE	Mean	SE	Mean	SE	Mean	SE
Vehicle	23	12.74	0.58	6.74	0.40	5.83	0.35	0.17	0.14	0.174	0.136
BPA 2.5 (µg/kg)	27	13.37	0.49	6.30	0.42	6.15	0.52	0.93	0.53	0.037	0.037
BPA 8 (µg/kg)	18	14.17	0.56	6.94	0.41	7.06	0.49	0.17	0.09	0.000	0.000
BPA 25 (µg/kg)	24	12.96	0.50	6.54	0.35	6.21	0.38	0.21	0.08	0.125	0.069
BPA 80 (µg/kg)	25	13.44	0.46	7.12	0.46	6.08	0.35	0.24	0.20	0.000	0.000
BPA 260 (µg/kg)	24	14.25	0.58	7.25	0.46	6.50	0.49	0.50	0.29	0.167	0.167
BPA 840 (µg/kg)	22	14.09	0.55	6.77	0.46	7.09	0.47	0.23	0.15	0.045	0.045
BPA 2700 (µg/kg)	25	13.40	0.55	6.36	0.41	6.96	0.39	0.08	0.06	0.000	0.000
BPA 100,000 (µg/kg)	24	13.67	0.52	6.92	0.39	6.50	0.39	0.25	0.09	0.042	0.042
BPA 300,000 (µg/kg)	26	14.42	0.40	6.96	0.40	7.04	0.37	0.42	0.18	0.115	0.085
EE2 0.5 (µg/kg)	20	13.75	0.72	6.50	0.47	7.10	0.64	0.15	0.08	0.100	0.069
EE2 5.0 (µg/kg)	21	13.52	0.46	6.48	0.45	7.00	0.56	0.05	0.05	0.048	0.048
Naïve Control	26	13.08	0.52	6.31	0.39	6.69	0.45	0.08	0.05	0.038	0.038

Table 2. Summary Statistics for Litter Sex Proportions			
	Percent Male		
Group	N	Mean	SE
Vehicle	23	54.2	1.8
BPA 2.5 (µg/kg)	27	54.2	3.1
BPA 8 (µg/kg)	18	50.6	2.7
BPA 25 (µg/kg)	24	52.4	2.0
BPA 80 (µg/kg)	25	54.2	2.4
BPA 260 (µg/kg)	24	54.7	2.6
BPA 840 (µg/kg)	22	49.6	2.9
BPA 2700 (µg/kg)	25	47.9	2.1
BPA 100,000 (µg/kg)	24	52.2	2.1
BPA 300,000 (µg/kg)	26	51.1	2.2
EE2 0.5 (µg/kg)	20	48.9	2.8
EE2 5.0 (µg/kg)	21	49.0	3.3
Naïve Control	26	48.9	2.6

Table 3. Litter Weight (g) Summary Statistics																								
Treatment																								
Vehicle			BPA 2.5 (µg/kg)			BPA 8 (µg/kg)			BPA 25 (µg/kg)			BPA 80 (µg/kg)			BPA 260 (µg/kg)			BPA 840 (µg/kg)			BPA 2700 (µg/kg)			
	N	Mean	S.E.	N	Mean	S.E.	N	Mean	S.E.	N	Mean	S.E.	N	Mean	S.E.	N	Mean	S.E.	N	Mean	S.E.	N	Mean	S.E.
Mean Female	23	6.93	0.13	27	7.05	0.19	18	6.59	0.11	24	6.90	0.15	25	6.83	0.24	24	6.67	0.17	22	6.93	0.16	25	6.88	0.18
Mean Male	23	7.19	0.15	27	6.92	0.32	18	7.16	0.11	24	7.28	0.17	25	6.88	0.20	24	7.05	0.17	22	6.78	0.37	25	7.22	0.20
Mean Pup	23	7.06	0.13	27	7.04	0.18	18	6.88	0.12	24	7.10	0.15	25	6.88	0.15	24	6.88	0.16	22	6.77	0.29	25	7.03	0.19
Females	23	39.96	2.52	27	42.17	3.38	18	44.68	2.97	24	41.18	2.41	25	40.52	2.58	24	41.66	3.25	22	49.12	3.14	25	47.02	2.75
Males	23	48.19	2.75	27	45.82	3.19	18	48.96	2.92	24	46.82	2.40	25	48.96	2.80	24	49.51	3.18	22	45.37	4.01	25	43.76	2.30
Total	23	88.15	4.07	27	87.99	2.79	18	93.64	3.30	24	87.99	2.98	25	89.48	2.42	24	91.17	4.09	22	94.50	5.00	25	90.78	3.39

Table 3. Litter Weight (g) Summary Statistics															
	Treatment														
	BPA 100,000 (µg/kg)			BPA 300,000 (µg/kg)			EE2 0.5 (µg/kg)			EE2 5.0 (µg/kg)			Naïve Control		
	N	Mean	S.E.	N	Mean	S.E.	N	Mean	S.E.	N	Mean	S.E.	N	Mean	S.E.
Mean Female	24	6.77	0.19	26	6.55	0.09	20	6.63	0.14	21	6.41	0.24	26	6.98	0.28
Mean Male	24	7.07	0.20	26	6.95	0.10	20	6.96	0.14	21	6.76	0.18	26	6.95	0.21
Mean Pup	24	6.92	0.19	26	6.75	0.09	20	6.80	0.13	21	6.56	0.17	26	6.94	0.12
Females	24	41.86	2.23	26	45.63	2.74	20	42.64	4.15	21	43.81	3.66	26	45.48	2.95
Males	24	47.38	2.81	26	47.04	2.37	20	44.20	3.25	21	43.03	3.04	26	43.05	2.84
Total	24	89.24	2.90	26	92.67	2.63	20	86.83	5.10	21	86.85	3.29	26	88.53	3.20

Table 4. Implant and Resorption Sum mary					
	Litters	Resorptions		Implants	
Group	N	Mean	SE	Mean	SE
Vehicle	23	1.26	0.37	14.17	0.60
BPA 2.5 (µg/kg)	27	1.11	0.27	14.52	0.47
BPA 8 (µg/kg)	18	1.06	0.34	15.22	0.42
BPA 25 (µg/kg)	24	1.00	0.29	14.08	0.57
BPA 80 (µg/kg)	25	1.60	0.26	15.04	0.45
BPA 260 (µg/kg)	24	1.17	0.35	15.58	0.55
BPA 840 (µg/kg)	22	1.23	0.24	15.36	0.55
BPA 2700 (µg/kg)	25	1.64	0.25	15.04	0.49
BPA 100,000 (µg/kg)	23	1.96	0.41	15.78	0.46
BPA 300,000 (µg/kg)	20	1.05	0.29	15.20	0.50
EE2 0.5 (µg/kg)	20	1.20	0.35	15.05	0.72
EE2 5.0 (µg/kg)	21	0.76	0.18	14.33	0.49
Naïve Control	26	1.50	0.32	14.62	0.40

Table 5. Logistic Regression Test of Treatment Effect on Male Proportions ¹					
Effect		NumDF	DenDF	FValue	ProbF
Male	Treatment	12	292	0.931	0.516

1 In the analysis of male proportion, unsexed pups were classified as male.

Table 6. Logistic Regression Comparisons of Male Proportions ²																								
	Vehicle			BPA 2.5 (µg/kg)			BPA 8 (µg/kg)			BPA 25 (µg/kg)			BPA 80 (µg/kg)			BPA 260 (µg/kg)			BPA 840 (µg/kg)			BPA 2700 (µg/kg)		
	Mean	S.E.	P-val ¹	Mean	S.E.	P-val	Mean	S.E.	P-val	Mean	S.E.	P-val	Mean	S.E.	P-val	Mean	S.E.	P-val	Mean	S.E.	P-val	Mean	S.E.	P-val
Male	0.543	0.028	0.058	0.540	0.025	1.000	0.502	0.030	0.852	0.521	0.027	0.991	0.548	0.026	1.000	0.544	0.026	1.000	0.497	0.027	0.738	0.481	0.026	0.421

Table 6. Logistic Regression Comparisons of Male Proportions ²															
	BPA 100,000 (µg/kg)			BPA 300,000 (µg/kg)			EE ₂ 0.5 (µg/kg)			EE ₂ 5.0 (µg/kg)			Naïve Control		
	Mean	S.E.	P-val	Mean	S.E.	P-val	Mean	S.E.	P-val	Mean	S.E.	P-val	Mean	S.E.	P-val
Male	0.525	0.026	0.850	0.512	0.024	0.621	0.483	0.029	0.232	0.482	0.028	0.217	0.488	0.026	0.150

1 All p-values are relative to the control group, except p-values for the linear trend are presented under the control group.

2 In the analysis of male proportion, unsexed pups were classified as male.

Table 7. Logistic Regression Comparisons of Male Proportions: Unadjusted P-values												
	Treatments											
	BPA 2.5 (µg/kg)	BPA 8 (µg/kg)	BPA 25 (µg/kg)	BPA 80 (µg/kg)	BPA 260 (µg/kg)	BPA 840 (µg/kg)	BPA 2700 (µg/kg)	BPA 100,000 (µg/kg)	BPA 300,000 (µg/kg)	EE2 0.5 (µg/kg)	EE2 5.0 (µg/kg)	Naïve Control
Male	0.942	0.313	0.568	0.882	0.980	0.237	0.106	0.635	0.410	0.135	0.126	0.150

1 In the analysis of male and female litter counts, unsexed pups were classified as male.

Table 8. Poisson Regression Test of Treatment Effect on Litter Count					
Analysis	Effect	NumDF	DenDF	Fvalue	ProbF
Alive ¹	Group	12	292	0.469	0.932
Females ²	Group	12	292	0.705	0.746
Males ²	Group	12	292	0.587	0.852
Unsexed	Group	12	292	3.970	0.000

1 Analysis "Alive" is based on the sum of counts of sexed females, sexed males, and unsexed pups.

2 In the analysis of male and female litter counts, unsexed pups were classified as male.

Table 9. Poisson Regression Comparisons and Estimates of Litter Counts																								
	Vehicle			BPA 2.5 (µg/kg)			BPA 8 (µg/kg)			BPA 25 (µg/kg)			BPA 80 (µg/kg)			BPA 260 (µg/kg)			BPA 840 (µg/kg)			BPA 2700 (µg/kg)		
Analysis	Mean	S.E.	P-val ¹	Mean	S.E.	P-val	Mean	S.E.	P-val	Mean	S.E.	P-val	Mean	S.E.	P-val	Mean	S.E.	P-val	Mean	S.E.	P-val	Mean	S.E.	P-val
Alive ²	12.74	0.74	0.902	13.37	0.70	0.987	14.17	0.89	0.698	12.96	0.73	1.000	13.44	0.73	0.979	14.25	0.77	0.573	14.09	0.80	0.700	13.40	0.73	0.984
Females ³	5.826	0.503	0.158	6.148	0.477	0.997	7.056	0.626	0.473	6.208	0.509	0.994	6.080	0.493	0.999	6.500	0.520	0.895	7.091	0.568	0.392	6.960	0.528	0.472
Males ³	6.91	0.55	0.244	7.22	0.52	0.999	7.11	0.63	1.000	6.75	0.53	1.000	7.36	0.54	0.991	7.75	0.57	0.823	7.00	0.56	1.000	6.44	0.51	0.984
Unsexed	0.17	0.09	0.081	0.93	0.19	0.013	0.17	0.10	1.000	0.21	0.09	1.000	0.24	0.10	0.996	0.50	0.14	0.297	0.23	0.10	0.999	0.08	0.06	0.910

Table 9. Poisson Regression Comparisons and Estimates of Litter Counts															
	BPA 100,000 (µg/kg)			BPA 300,000 (µg/kg)			EE ₂ 0.5 (µg/kg)			EE ₂ 5.0 (µg/kg)			Naïve Control		
Analysis	Mean	S.E.	P-val	Mean	S.E.	P-val	Mean	S.E.	P-val	Mean	S.E.	P-val	Mean	S.E.	P-val
Alive ²	13.67	0.75	0.587	14.42	0.74	0.196	13.75	0.83	0.563	13.52	0.80	0.694	13.08	0.71	0.743
Females ³	6.500	0.520	0.550	7.038	0.520	0.171	7.100	0.596	0.178	7.000	0.577	0.217	6.692	0.507	0.229
Males ³	7.17	0.55	0.925	7.38	0.53	0.763	6.65	0.58	0.924	6.52	0.56	0.837	6.38	0.50	0.474
Unsexed	0.25	0.10	0.797	0.42	0.13	0.223	0.15	0.09	0.973	0.05	0.05	0.404	0.08	0.05	0.347

1 All p-values are relative to the control group, except p-values for the linear trend are presented under the control group.

2 Analysis "Alive" is based on the sum of counts of sexed females, sexed males, and unsexed pups.

3 In the analysis of male and female litter counts, unsexed pups were classified as male.

Table 10. Poisson Regression Comparisons of Litter Counts: Unadjusted P-values												
Analysis	Treatments											
	BPA 2.5 (µg/kg)	BPA 8 (µg/kg)	BPA 25 (µg/kg)	BPA 80 (µg/kg)	BPA 260 (µg/kg)	BPA 840 (µg/kg)	BPA 2700 (µg/kg)	BPA 100,000 (µg/kg)	BPA 300,000 (µg/kg)	EE2 0.5 (µg/kg)	EE2 5.0 (µg/kg)	Naïve Control
Alive ¹	0.539	0.216	0.834	0.503	0.160	0.217	0.528	0.383	0.112	0.364	0.473	0.743
Females ²	0.643	0.123	0.594	0.719	0.353	0.096	0.123	0.353	0.097	0.102	0.125	0.229
Males ²	0.682	0.812	0.831	0.563	0.291	0.912	0.527	0.744	0.539	0.742	0.619	0.474
Unsexed	0.002	0.956	0.788	0.618	0.068	0.690	0.371	0.574	0.129	0.847	0.248	0.347

1 Analysis "Alive" is based on the sum of counts of sexed females, sexed males, and unsexed pups.

2 In the analysis of male and female litter counts, unsexed pups were classified as male.

Table 11. ANOCOVA of Litter Mean Pup Weight and ANOVA of Litter Weight (g)					
Analysis	Effect	NumDF	DenDF	FValue	ProbF
Mean Female	Group	12	291	0.849	0.600
	Number in Litter		291	46.087	0.000
Mean Male	Group	12	291	0.599	0.842
	Number in Litter		291	36.164	0.000
Mean Pup	Group	12	291	0.623	0.823
	Number in Litter	1	291	60.732	0.000
Females	Group	12	292	0.831	0.619
Males	Group	12	292	0.603	0.840
Total	Group	12	292	0.488	0.921

Table 12: Comparisons of Least Square Means for Litter Weight and Litter Mean Pup Weight (g)																								
	Vehicle			BPA 2.5 (µg/kg)			BPA 8 (µg/kg)			BPA 25 (µg/kg)			BPA 80 (µg/kg)			BPA 260 (µg/kg)			BPA 840 (µg/kg)			BPA 2700 (µg/kg)		
Analysis	Mean	S.E.	P-val ¹	Mean	S.E.	P-val	Mean	S.E.	P-val	Mean	S.E.	P-val	Mean	S.E.	P-val	Mean	S.E.	P-val	Mean	S.E.	P-val	Mean	S.E.	P-val
Mean Female	6.81	0.18	0.763	7.03	0.16	0.918	6.67	0.20	0.992	6.81	0.17	1.000	6.81	0.17	1.000	6.75	0.17	1.000	6.99	0.18	0.974	6.85	0.17	1.000
Mean Male	7.08	0.20	0.647	6.89	0.19	0.975	7.24	0.23	0.996	7.19	0.20	0.999	6.86	0.19	0.949	7.14	0.20	1.000	6.84	0.21	0.942	7.20	0.19	0.999
Mean Pup	6.95	0.15	0.863	7.01	0.14	1.000	6.95	0.17	1.000	7.01	0.15	1.000	6.86	0.15	0.999	6.96	0.15	1.000	6.83	0.16	0.995	7.01	0.15	1.000
Females	40.0	3.0	0.050	42.2	2.8	0.994	44.7	3.4	0.838	41.2	3.0	1.000	40.5	2.9	1.000	41.7	3.0	0.999	49.1	3.1	0.169	47.0	2.9	0.382
Males	48.2	3.0	0.161	45.8	2.7	0.989	49.0	3.3	1.000	46.8	2.9	1.000	49.0	2.8	1.000	49.5	2.9	1.000	45.4	3.0	0.979	43.8	2.8	0.809
Total	88.2	3.5	0.611	88.0	3.3	1.000	93.6	4.0	0.840	88.0	3.5	1.000	89.5	3.4	1.000	91.2	3.5	0.987	94.5	3.6	0.685	90.8	3.4	0.994

Table 12. Comparisons of Least Square Means for Litter Weight and Litter Mean Pup Weight (g)															
	BPA 100,000 (µg/kg)			BPA 300,000 (µg/kg)			EE ₂ 0.5 (µg/kg)			EE ₂ 5.0 (µg/kg)			Naïve Control		
Analysis	Mean	S.E.	P-val	Mean	S.E.	P-val	Mean	S.E.	P-val	Mean	S.E.	P-val	Mean	S.E.	P-val
Mean Female	6.78	0.17	0.986	6.66	0.17	0.748	6.65	0.19	0.750	6.40	0.18	0.183	6.92	0.17	0.677
Mean Male	7.08	0.20	1.000	7.06	0.19	0.997	6.98	0.22	0.916	6.75	0.21	0.420	6.88	0.19	0.466
Mean Pup	6.93	0.15	0.996	6.85	0.14	0.864	6.83	0.16	0.807	6.56	0.16	0.137	6.87	0.14	0.716
Females	41.9	3.0	0.864	45.6	2.8	0.292	42.6	3.2	0.771	43.8	3.2	0.583	45.5	2.8	0.185
Males	47.4	2.9	0.972	47.0	2.8	0.943	44.2	3.2	0.555	43.0	3.1	0.377	43.1	2.8	0.207
Total	89.2	3.5	0.965	92.7	3.3	0.547	86.8	3.8	0.953	86.8	3.7	0.953	88.5	3.3	0.937

¹ All p-values are relative to the control group, except p-values for the linear trend are presented under the control group

Table 13. Least Square Means Percent of Vehicle for Litter Weight and Litter Mean Pup Weight (g)												
Analysis	Treatments											
	BPA 2.5 (µg/kg)	BPA 8 (µg/kg)	BPA 25 (µg/kg)	BPA 80 (µg/kg)	BPA 260 (µg/kg)	BPA 840 (µg/kg)	BPA 2700 (µg/kg)	BPA 100,000 (µg/kg)	BPA 300,000 (µg/kg)	EE2 0.5 (µg/kg)	EE2 5.0 (µg/kg)	Naïve Control
Mean Female	103.1	97.8	100.0	100.0	99.1	102.6	100.5	99.5	97.7	97.6	93.9	101.5
Mean Male	97.3	102.2	101.6	96.8	100.8	96.6	101.7	100.0	99.7	98.5	95.3	97.1
Mean Pup	100.9	100.1	101.0	98.8	100.2	98.3	100.9	99.8	98.6	98.2	94.4	98.9
Females	105.5	111.8	103.0	101.4	104.2	122.9	117.7	104.8	114.2	106.7	109.6	113.8
Males	95.1	101.6	97.1	101.6	102.7	94.2	90.8	98.3	97.6	91.7	89.3	89.3
Total	99.8	106.2	99.8	101.5	103.4	107.2	103.0	101.2	105.1	98.5	98.5	100.4

Table 14. Comparisons for Litter Weight and Litter Mean Pup Weight (g): Unadjusted P-values												
Analysis	Treatments											
	BPA 2.5 (µg/kg)	BPA 8 (µg/kg)	BPA 25 (µg/kg)	BPA 80 (µg/kg)	BPA 260 (µg/kg)	BPA 840 (µg/kg)	BPA 2700 (µg/kg)	BPA 100,000 (µg/kg)	BPA 300,000 (µg/kg)	EE2 0.5 (µg/kg)	EE2 5.0 (µg/kg)	Naïve Control
Mean Female	0.381	0.577	1.000	0.998	0.804	0.488	0.879	0.888	0.524	0.526	0.105	0.677
Mean Male	0.492	0.614	0.695	0.428	0.843	0.415	0.674	0.991	0.949	0.729	0.259	0.466
Mean Pup	0.755	0.978	0.755	0.696	0.948	0.599	0.767	0.938	0.654	0.585	0.077	0.716
Females	0.593	0.302	0.775	0.893	0.689	0.035	0.093	0.654	0.173	0.547	0.380	0.185
Males	0.556	0.864	0.740	0.851	0.751	0.506	0.280	0.844	0.777	0.358	0.229	0.207
Total	0.972	0.303	0.974	0.785	0.542	0.209	0.591	0.826	0.351	0.798	0.798	0.937

Table 15. ANOVA Test of Treatment Effect on Implants and Resorptions						
Outcome	Analysis	Effect	NumDF	DenDF	FValue	ProbF
Implants	Data	Group	12	285	1.082	0.375
Resorbed	Data	Group	12	285	1.085	0.373

Table 16. Comparisons of Least Square Means for Implants and Resorptions

Treatments																								
Vehicle				BPA 2.5 (µg/kg)			BPA 8 (µg/kg)			BPA 25 (µg/kg)			BPA 80 (µg/kg)			BPA 260 (µg/kg)			BPA 840 (µg/kg)			BPA 2700 (µg/kg)		
Outcome	Mean	S.E.	P-val ¹	Mean	S.E.	P-val	Mean	S.E.	P-val	Mean	S.E.	P-val	Mean	S.E.	P-val	Mean	S.E.	P-val	Mean	S.E.	P-val	Mean	S.E.	P-val
Implants	14.17	0.52	0.411	14.52	0.48	0.996	15.22	0.58	0.622	14.08	0.51	1.000	15.04	0.50	0.721	15.58	0.51	0.238	15.36	0.53	0.430	15.04	0.50	0.721
Resorbed	1.26	0.31	0.176	1.11	0.28	1.000	1.06	0.35	0.998	1.00	0.30	0.988	1.60	0.30	0.948	1.17	0.30	1.000	1.23	0.31	1.000	1.64	0.30	0.913

Table 16. Comparisons of Least Square Means for Implants and Resorptions

Treatments															
BPA 100,000 (µg/kg)				BPA 300,000 (µg/kg)			EE ₂ 0.5 (µg/kg)			EE ₂ 5.0 (µg/kg)			Naïve Control		
Outcome	Mean	S.E.	P-val	Mean	S.E.	P-val	Mean	S.E.	P-val	Mean	S.E.	P-val	Mean	S.E.	P-val
Implants	15.78	0.52	0.053	15.20	0.55	0.298	15.05	0.55	0.406	14.33	0.54	0.967	14.62	0.49	0.535
Resorbed	1.96	0.31	0.193	1.05	0.33	0.854	1.20	0.33	0.987	0.76	0.32	0.427	1.50	0.29	0.572

¹ All p-values are relative to the control group, except p-values for the linear trend are presented under the control group.

Table 17. Least Square Means Percent of Vehicle for Implants and Resorptions													
		Treatments											
Outcome	Analysis	BPA 2.5 (µg/kg)	BPA 8 (µg/kg)	BPA 25 (µg/kg)	BPA 80 (µg/kg)	BPA 260 (µg/kg)	BPA 840 (µg/kg)	BPA 2700 (µg/kg)	BPA 100,000 (µg/kg)	BPA 300,000 (µg/kg)	EE2 0.5 (µg/kg)	EE2 5.0 (µg/kg)	Naïve Control
Implants	Data	102.4	107.4	99.4	106.1	109.9	108.4	106.1	111.3	107.2	106.2	101.1	103.1
Resorbed	Data	88.1	83.7	79.3	126.9	92.5	97.3	130.1	155.2	83.3	95.2	60.4	119.0

Table 18. Comparisons for Implants and Resorptions: Unadjusted P-values													
		Treatments											
Outcome	Analysis	BPA 2.5 (µg/kg)	BPA 8 (µg/kg)	BPA 25 (µg/kg)	BPA 80 (µg/kg)	BPA 260 (µg/kg)	BPA 840 (µg/kg)	BPA 2700 (µg/kg)	BPA 100,000 (µg/kg)	BPA 300,000 (µg/kg)	EE2 0.5 (µg/kg)	EE2 5.0 (µg/kg)	Naïve Control
Implants	Data	0.625	0.180	0.900	0.228	0.052	0.109	0.228	0.029	0.177	0.249	0.831	0.535
Resorbed	Data	0.721	0.659	0.545	0.427	0.827	0.939	0.375	0.11	0.641	0.893	0.263	0.572