

Supplemental Material

Magnetic Resonance Imaging and Volumetric Analysis: Novel Tools to Study the Effects of Thyroid Hormone Disruption on White Matter Development

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Supplemental Material, Table 1
Inter-rater Variability Between Segmenters

Analyst	Cerebral WM Volume (mm ³)	Cerebral GM Volume (mm ³)	Total Cerebral Volume (mm ³)	Hippocampus Volume (mm ³)	% Cerebral WM	% Hippocampus
1	179.50	975.11	1154.62	89.44	15.55	7.75
2	175.65	974.73	1150.39	90.48	15.27	7.86
3	181.58	969.52	1151.10	87.88	15.77	7.63
4	184.16	961.96	1146.11	89.63	16.07	7.82
5	188.51	955.49	1144.00	87.97	16.48	7.69
6	175.56	966.96	1142.52	88.73	15.37	7.77
Mean	180.83	967.29	1148.12	89.02	15.75	7.75
St.Dev	5.04	7.61	4.66	1.02	0.46	0.08

WM = White matter

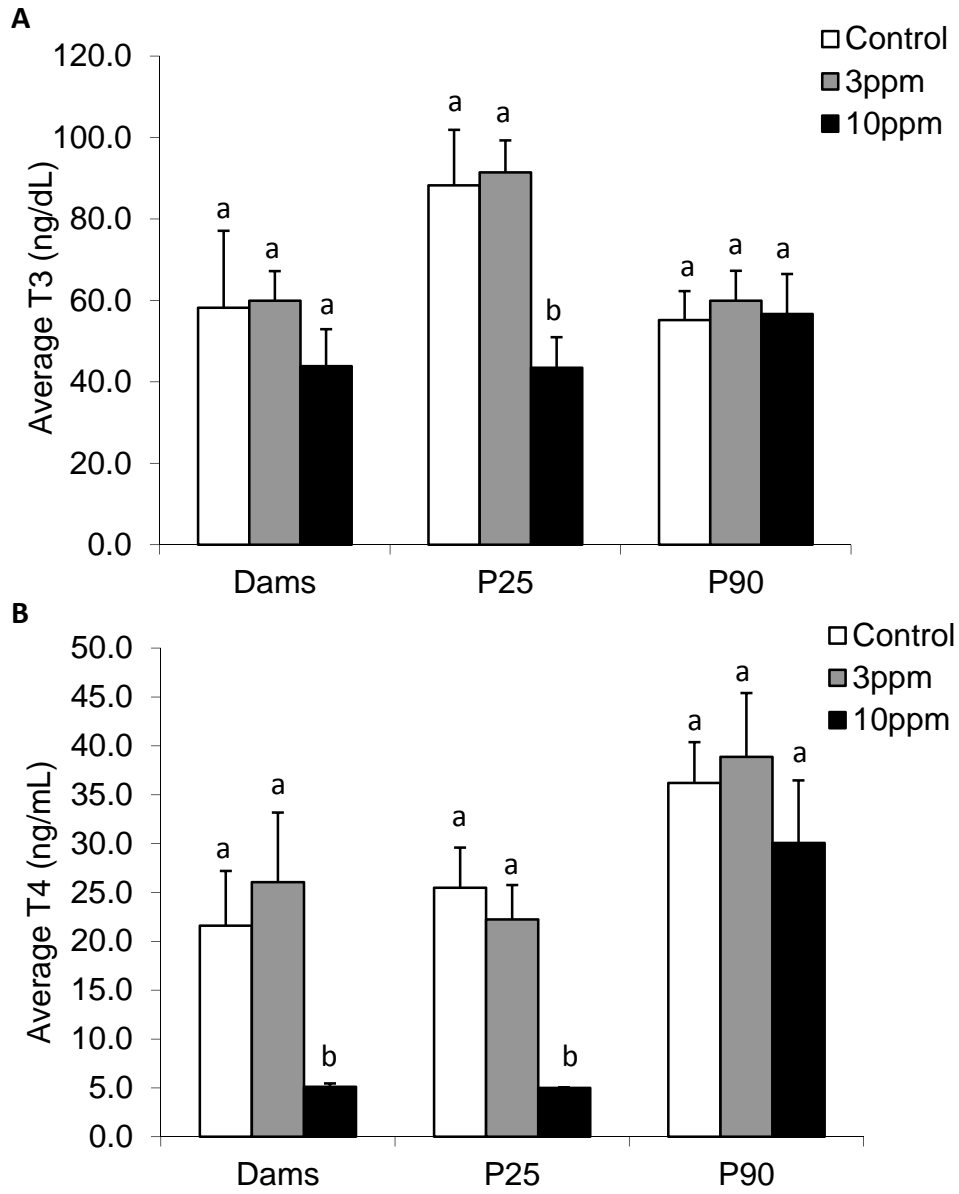
GM = Gray matter

Supplemental Materials, Table 2. Brain Volumes from *In Vivo* Images Compared to *Ex vivo* Images of the Same Rats Exposed to 10 ppm Propylthiouracil (PTU)

Animal ID	Treatment	Body Weight	T3 (ng/dL)	T4 (ng/mL)	Scan type	WM volume	GM Volume	Total Segmented Volume	Hippocampus volume	Percent WM	Percent Hippocampus
01	0 ppm	373.1	51.2	33.9	In vivo	122.77	1017.99	1140.76	77.58	10.76	6.80
04	0 ppm	402.2	39.7	26.2	In vivo	146.45	1057.88	1204.34	67.51	12.16	5.61
22	10 ppm	334.1	40.8	16.1	In vivo	94.38	1087.54	1181.91	62.55	7.99	5.29
24	10 ppm	286.5	42.5	26.9	In vivo	118.60	1026.82	1145.42	65.77	10.35	5.74
01	0 ppm	373.1	51.2	33.9	Ex vivo	167.41	949.34	1116.75	82.74	14.99	7.41
04	0 ppm	402.2	39.7	26.2	Ex vivo	195.05	982.68	1177.73	94.36	16.56	8.01
22	10 ppm	334.1	40.8	16.1	Ex vivo	140.37	939.09	1079.46	87.02	13.00	8.06
24	10 ppm	286.5	42.5	26.9	Ex vivo	140.61	885.18	1025.79	76.84	13.71	7.49

WM = White Matter

GM = Gray Matter



Supplemental Material, Figure 1. Average T3 and T4 values of all rats exposed to propylthiouracil PTU. (A) Average T3 values of all age groups. Note the reduction in T3 levels at postnatal day 25 (P25) but recovery at P90. (B) Average T4 values of all age groups, note the reduction in T4 levels at P25 but recovery at P90. Seven of the eight dams and fifteen of fifteen P25 pups exposed to 10ppm PTU had T4 values below the minimum detection level. Values that share the same letter are not significantly different from each other ($P > 0.05$); error bars show standard deviation.