Iodoacetic acid disrupts the thyroid endocrine system *in vitro* and *in vivo*

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SUPPORTING IMFORMATION

Number of pages: 9

Number of figures: 4

Number of tables: 2

Content

Table S1. Primer sequences for RT-qPCR

Gene name	Gene Bank Accession	Forward (5'-3')	Reverse (5'-3')
TSHR	NM_012888.1	AGACACCAAGATTGCCAAGAGG	GTGGGTAGAAGAGAACCAACAAGAC
NIS	NM_052983.2	CCAGGTTGTGGTAATGCTCGT	GTCAAAGTCCATCAGGTTGATCC
TPO	NM_019353.2	CCTGGCTGAAAAGTTCTTACCG	CTGTTCTCCCACCAAAACCTGTC
TG1	NM_030988.2	CACATCAGCATTTCAGCCACC	TCAGGGTAGAACACACACCTCACA
TG2	NM_001270783.1	CACATCAGCATTTCAGCCACC	TCAGGGTAGAACACACACCTCACA
THRα1	NM_001017960.1	GACAAGGCCACCGGTTATCACTAC	GATCTTGTCGATGACGCAGCA
THRα2	NM_031134.2	GACAAGGCCACCGGTTATCACTAC	GATCTTGTCGATGACGCAGCA
THRβ1	NM_012672.3	GGGTACCACTATCGCTGCATCAC	TCCCACTGCCTTGAGGACAAC
DIO1	NM_021653.4	GGCTGAAGCGGCTTGTGATA	TGGCCAGGATGTTCTGCTTG

Tabel S2. Clinical biochemistry values in SD rats exposed to IAA for 28 days.

Parameters	Control	IAA (mg/kg b.w.)		
		6	12	24
Male				
AST (U/L)	126.857±30.405	89.429±14.246*	100.143±14.634	122.750±32.600
ALT (U/L)	61.429±8.960	59.286±11.658	55.571±11.149	50.750±10.223
AST/ALT	2.029±0.281	1.529±0.281*	1.814±0.241	2.425±0.523
ALP (U/L)	351.667±95.091	379.571±26.210	306.429±80.700	204.250±88.228*
TB (μM /L)	0.643±0.264	0.443±0.382	0.574±1.073	0.763±0.784
TP (g/L)	60.900±1.479	59.143±2.291	58.286±1.583	55.950±3.367*
ALB (g/L)	41.671±1.267	41.471±1.026	40.843±1.075	40.238±2.293
GLB (g/L)	19.229±1.570	17.671±1.745	17.443±1.008	15.500±1.309*
A/G	2.186±0.248	2.357±0.223	2.343±0.151	2.575±0.183*
BUN (mM /L)	5.940±0.574	5.457±0.572	5.480±0.568	4.400±0.454*
UA (μM /L)	12.429±8.619	8.286±12.906	8.000±5.416	31.750±21.959*
CREA (μM /L)	23.286±2.360	24.286±2.870	24.714±2.059	23.286±2.628
Na (mM /L)	142.100±1.974	142.829±1.823	144.114±0.367	144.050±2.039
K (mM /L)	6.941±0.947	6.489±0.692	6.204±0.550	6.168±0.820
Cl (mM /L)	95.043±2.000	94.157± 0.966	95.529±0.673	96.500±1.840
Female				
AST (U/L)	116.333±37.006	83.143±16.477*	79.857±8.533*	86.500±16.009*
ALT (U/L)	45.714±9.481	34.429±7.044*	34.571±5.127*	34.625±6.675*

AST/ALT	2.871±0.785	2.457±0.404	2.357±0.341	2.512±0.236
ALP (U/L)	172.857±59.784	141.143±41.759	121.857±28.375	124.125±58.900
TB (μM /L)	0.757±0.315	0.800±0.283	0.657±0.251	1.200±0.455
TP (g/L)	59.214±5.032	60.214±3.170	61.986±1.752	57.088±2.904
ALB (g/L)	42.814±2.413	43.000±1.960	45.029±1.452	42.888±2.370
GLB (g/L)	16.400±2.686	17.214±1.346	16.957±0.793	14.200±1.046*
A/G	2.643±0.310	2.514±0.122	2.671±0.150	3.025±0.212*
BUN (mM /L)	5.673±0.677	5.736±0.610	5.491±0.656	5.166±0.853
UA (μM /L)	71.143±27.419	69.714±39.571	56.000±14.341	79.750±13.112
CREA (μM /L)	32.000±2.944	32.143±5.521	30.714±2.289	28.125±3.440
Na (mM /L)	138.014±2.387	137.500±2.353	141.529±0.938*	142.125±1.065*
K (mM /L)	6.151±1.099	6.266±0.894	5.270±0.448	5.453±1.054
Cl (mM /L)	96.157±1.593	95.157±1.708	98.257±1.297*	98.963±1.036*

32 * Significantly different from control at $P < 0.05$.

Figure S1. Body weight changes in male and female SD rats treated with IAA for 28 days. Data are shown as the mean ± SD, n=7.

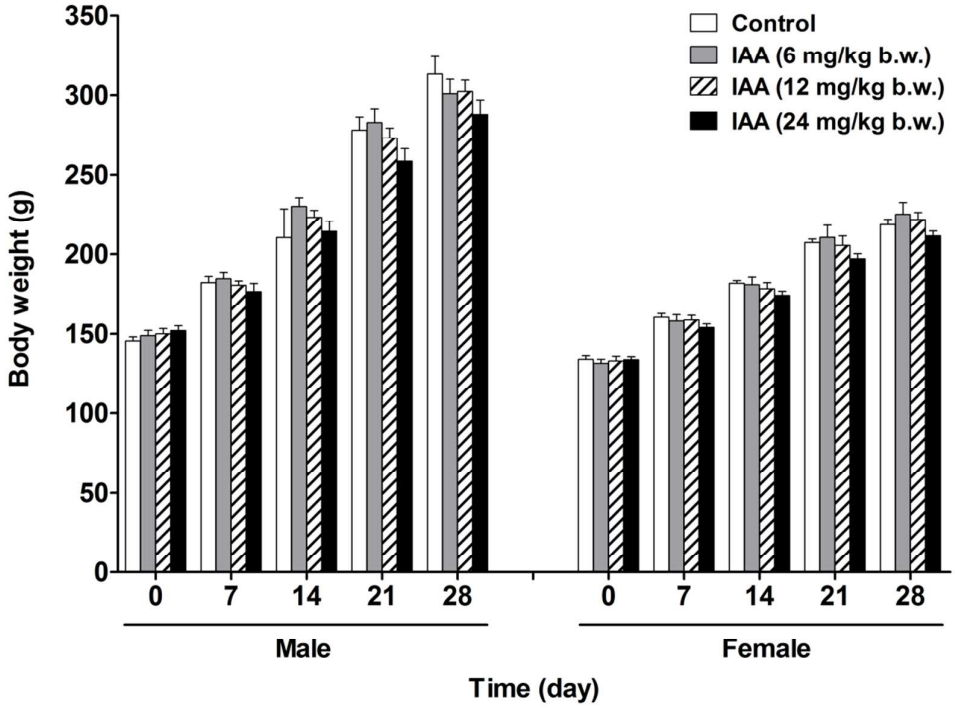

Figure S2. Food consumption of males and females SD rats treated with IAA for 28 days. Data are shown as the mean of each group, n=7.

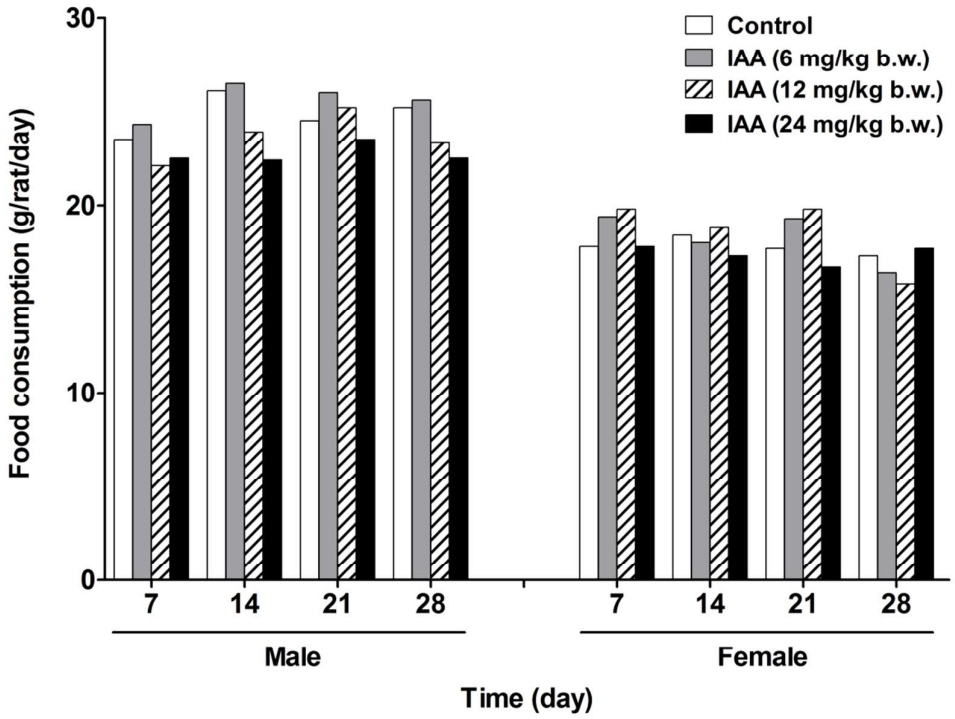

Figure S3. Histological micrographs of the liver of SD rats treated with IAA for 28 days. (A) Normal liver cells. (B) Slight edemas of liver cells were frequently observed in IAA treated rats.

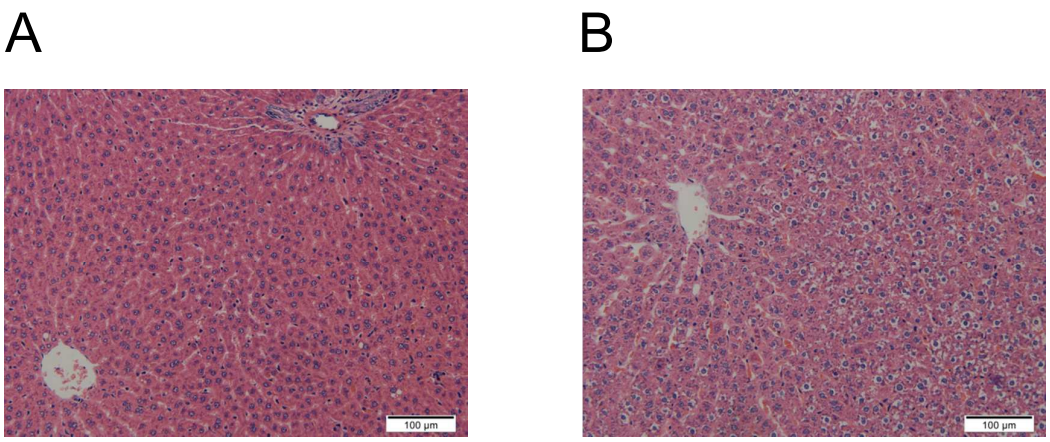

Figure S4. Immunohistochemical micrographs of NIS (A), TSHR (B), TG (C), and TPO (D) protein expression in the thyroid of SD rats treated with IAA for 28 days.