

Fig. 11 Relative organ weights

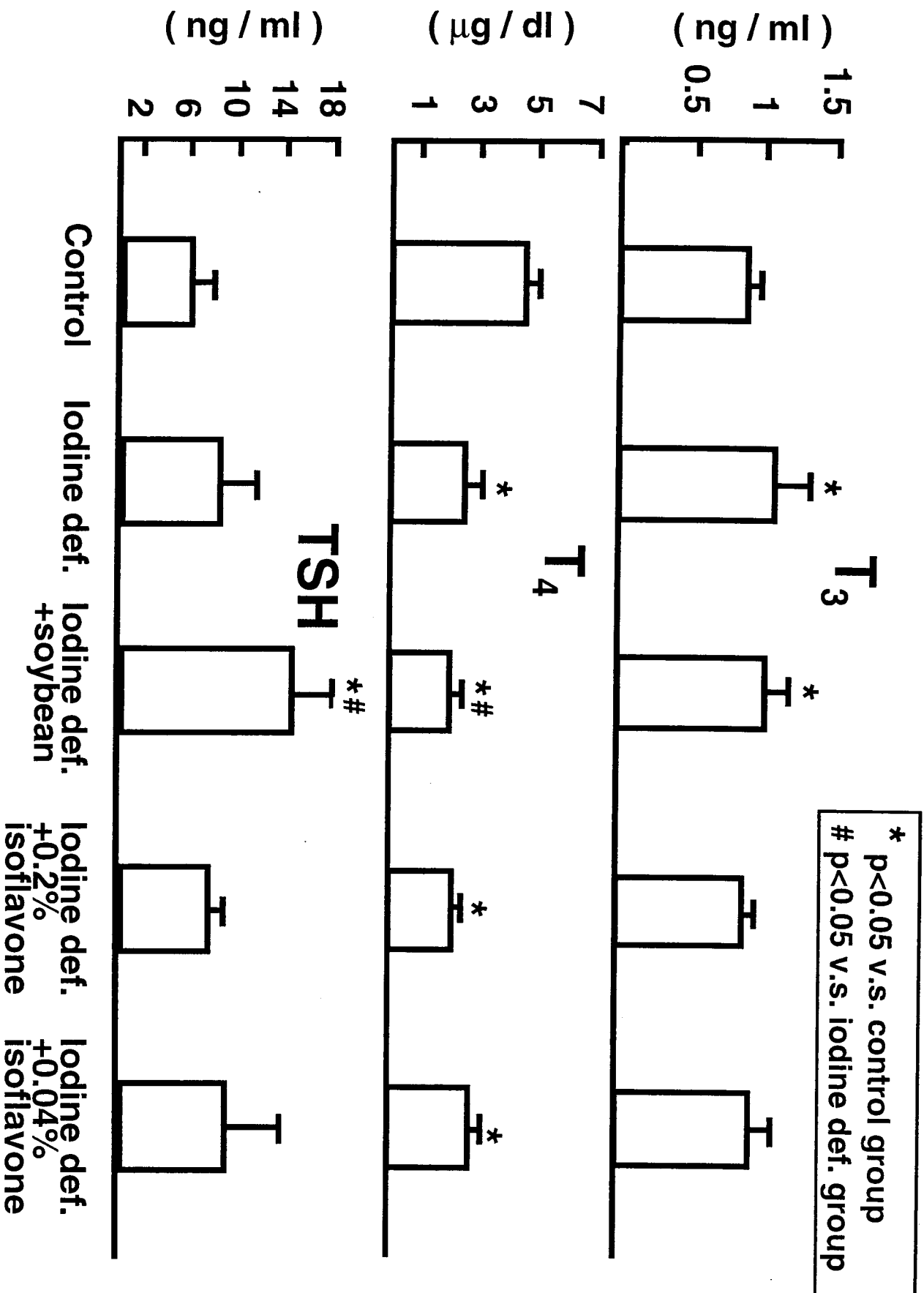


Fig. 12 Serum hormone levels

Table 1. Intake of food and test chemicals over 12 weeks

Groups	Daily intake		Total intake
	Food (mg/day/rat)	Test chemicals (mg/day/rat)	Test chemicals (mg)
DHPN + Genistein (250 ppm)	15.9 ± 0.9	3.97	333.9
DHPN + Genistein (25 ppm)	15.1 ± 0.9	0.38	31.7
DHPN + Nonylphenol (250 ppm)	14.7 ± 1.4	3.68	308.7
DHPN + Nonylphenol (25 ppm)	15.3 ± 0.9	0.38	32.1
DHPN + Isoflavone (400 ppm)	14.8 ± 0.8	5.90	497.3
DHPN (Basal diet)	14.9 ± 0.7	0	0
Genistein (250 ppm)	15.8 ± 1.1	3.95	331.8
Genistein (25 ppm)	14.8 ± 1.0	0.37	31.1
Nonylphenol (250 ppm)	14.4 ± 0.9	3.60	302.4
Nonylphenol (25 ppm)	14.7 ± 1.0	0.37	30.9
Isoflavone (400 ppm)	15.8 ± 0.8	6.30	530.9
Saline (Basal diet)	15.1 ± 0.5	0	0

Table 2. Final body and relative organ weights (g)

	No. of Rats	Body Weight	Thyroid	Pituitary	Kidney-R	Kidney-L	Liver	Testis-R	Testis-L
DHPN+SDM (1000 ppm)	10	267.7±4.45 **	0.079±0.01 **	0.0044±0.00 *	0.27±0.01 #	0.27±0.01	2.89±0.18	0.50±0.02	0.52±0.03
DHPN+GEN (250 ppm)	10	291.2±14.76	0.006±0.00	0.0036±0.00	0.29±0.01	0.29±0.01	3.07±0.13	0.46±0.04	0.49±0.02
DHPN+GEN (25 ppm)	10	289.7±13.01 *	0.006±0.02	0.0031±0.00	0.28±0.01	0.28±0.01	3.05±0.13	0.45±0.01	0.47±0.04
DHPN+NP (250 ppm)	10	284.7±12.96 *	0.006±0.00	0.0034±0.00	0.30±0.01	0.30±0.01 *	2.99±0.15	0.43±0.05	0.46±0.05
DHPN+NP (25 ppm)	10	302.7±8.14	0.006±0.00	0.0033±0.00	0.28±0.01	0.28±0.01	3.00±0.10	0.45±0.03	0.46±0.03
DHPN+SI (400 ppm)	10	291.4±12.29	0.006±0.00	0.0035±0.00	0.29±0.01	0.29±0.01	2.88±0.08	0.40±0.12	0.46±0.03
DHPN	10	294.6±17.04	0.005±0.00	0.0033±0.00	0.29±0.01	0.29±0.01	2.97±0.09	0.43±0.06	0.46±0.05
SDM (1000 ppm)	5	272.6±8.14 *	0.068±0.01 **	0.0037±0.00 *	0.28±0.01	0.28±0.01	2.81±0.13	0.51±0.05	0.55±0.01 *
GEN (250 ppm)	5	309.1±13.83	0.006±0.00	0.0032±0.00	0.29±0.01	0.29±0.02	3.04±0.08	0.46±0.02	0.47±0.02
GEN (25 ppm)	5	301.9±22.24	0.006±0.00	0.0033±0.00	0.28±0.01	0.28±0.01	2.91±0.13	0.51±0.04	0.50±0.03
NP (250 ppm)	5	298.4±13.13	0.006±0.00	0.0034±0.00	0.29±0.01	0.30±0.01	2.99±0.09	0.48±0.02	0.51±0.02
NP (25 ppm)	5	311.3±21.94	0.006±0.00	0.0031±0.00	0.27±0.01	0.27±0.01	2.99±0.20	0.47±0.08	0.46±0.08
SI (400 ppm)	5	313.4±15.10	0.006±0.00	0.0028±0.00	0.28±0.01	0.28±0.01	2.93±0.08	0.47±0.05	0.47±0.04
Saline	5	311.6±11.12	0.005±0.00	0.0030±0.00	0.27±0.01	0.27±0.01	2.93±0.19	0.47±0.04	0.47±0.04

\* ; Significantly different from the control value (saline) at p&lt;0.05

\*\* ; Significantly different from the control value at p&lt;0.001

# ; Significantly different from the DHPN treatment group value at p&lt;0.05

## ; Significantly different from the DHPN treatment group value at p&lt;0.001

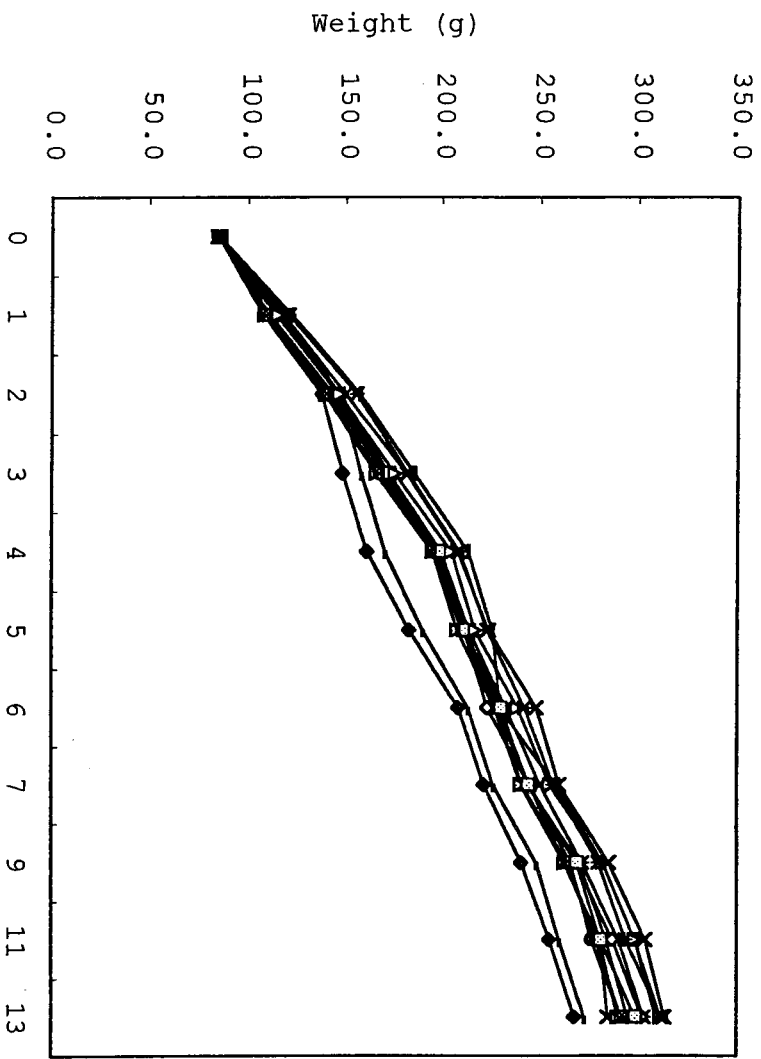
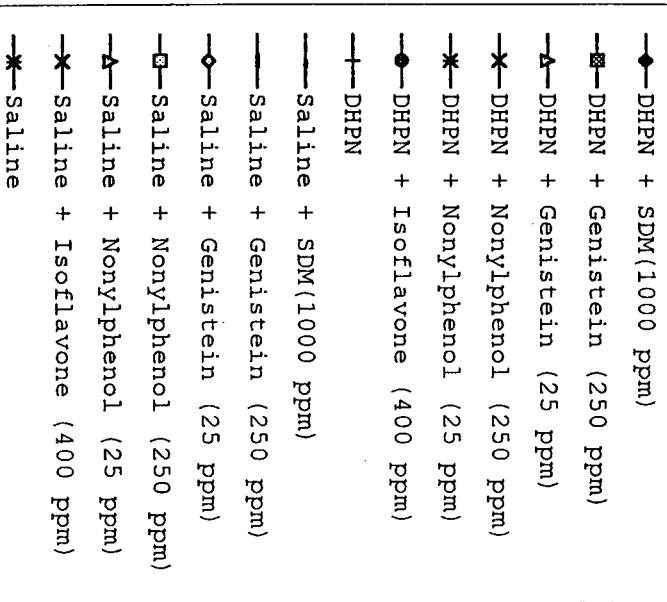


Fig. 13. Body weight curves

Weeks



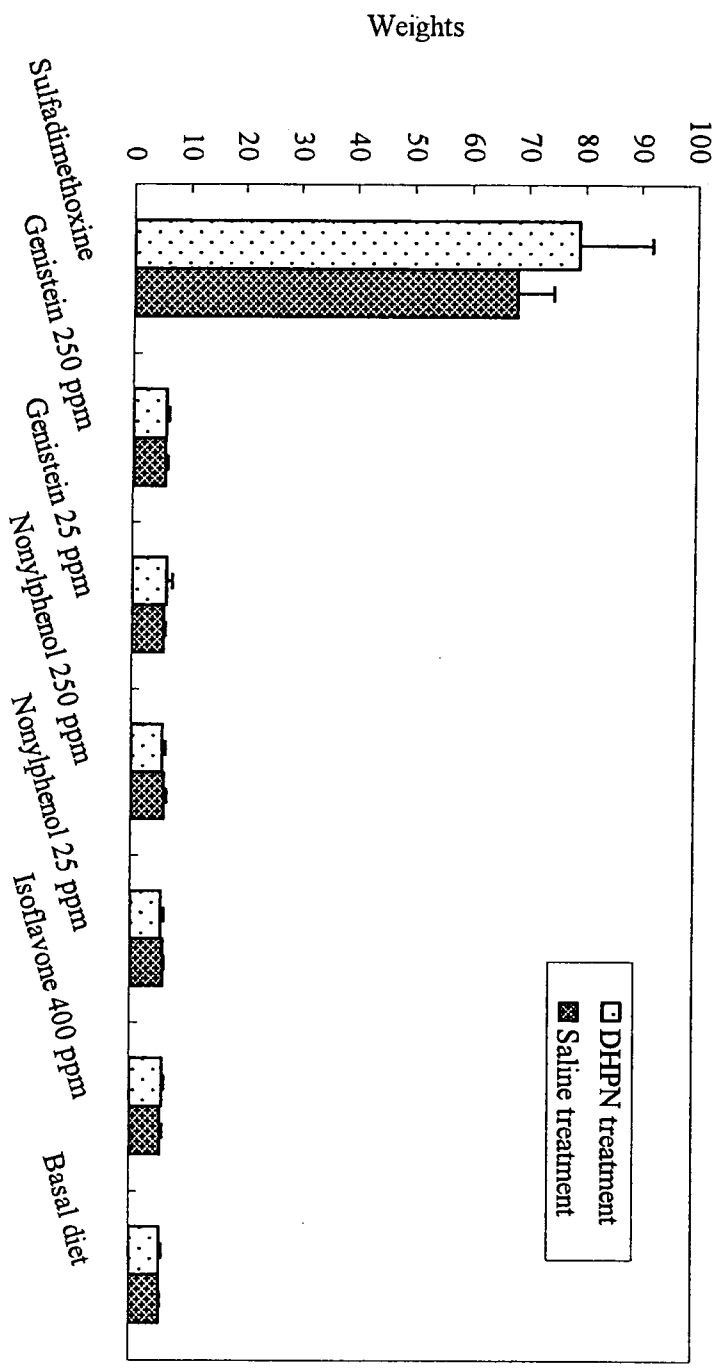


Fig. 14. Relative thyroid gland weights

Table 3. Intakes of food and test chemicals over 12 weeks

Groups	Daily intake		Total intake
	Food (mg/day/rat)	Test chemical (mg/day/rat)	Test chemical (mg)
DHPN + SDM (1000 ppm)	9.4 ± 1.3	0	0
DHPN + Genistein (250 ppm)	11.4 ± 1.7	2.85	239.4
DHPN + Genistein (25 ppm)	11.8 ± 2.1	0.30	24.8
DHPN + Nonylphenol (250 ppm)	11.9 ± 2.1	2.98	250
DHPN + Nonylphenol (25 ppm)	11.4 ± 1.7	2.85	239.4
DHPN + Isoflavone (400 ppm)	12.0 ± 1.5	4.80	403.2
DHPN	11.7 ± 2.2	0	0
Control (Saline)	11.6 ± 1.3	0	0

Table 4. Final body and relative organ weights (g)

	Body weight (g)	Pituitary (mg)	Thyroid (mg)	Liver (g)	Kidney (g)	Uterus (g)
DHPN + SDM (1000 ppm)	174.0 ± 7.9 **	7.25 ± 0.9	89.5 ± 28.7 ***	2.77 ± 0.11 #	0.9 ± 0.04	0.023 ± 0.005
DHPN + Genistein (250 ppm)	200.8 ± 7.5	5.53 ± 0.2	6.3 ± 0.9	2.62 ± 0.07	1.0 ± 0.03	0.024 ± 0.005
DHPN + Genistein (25 ppm)	200.1 ± 4.9	5.50 ± 0.6	7.6 ± 1.1	2.57 ± 0.28	1.1 ± 0.09	0.028 ± 0.005
DHPN + Nonylphenol (250 ppm)	202.0 ± 9.0	5.60 ± 0.4	7.5 ± 0.7	2.35 ± 0.07	1.0 ± 0.02	0.024 ± 0.004
DHPN + Nonylphenol (25 ppm)	196.8 ± 9.4	5.19 ± 0.4	7.7 ± 0.8	2.36 ± 0.08	1.0 ± 0.06	0.022 ± 0.005
DHPN + Isoflavone (400 ppm)	205.2 ± 5.8	5.36 ± 0.4	7.6 ± 0.6	2.42 ± 0.11	1.1 ± 0.04	0.022 ± 0.006
DHPN + $\beta$ -estradiol benzoate (0.5 mg)	166.7 ± 18.3 **	179.56 ± 95.9 ***	10.1 ± 1.2	4.00 ± 0.32 #	1.4 ± 0.09 **	0.290 ± 0.070 ***
DHPN	199.5 ± 6.3	5.47 ± 0.4	8.1 ± 1.1	2.37 ± 0.10	1.0 ± 0.05	0.026 ± 0.007
Control (Saline)	203.1 ± 13.8	5.38 ± 0.4	7.0 ± 0.9	2.26 ± 0.11	1.1 ± 0.08	0.025 ± 0.006

\* ; Significantly different from the control value (saline) at  $p < 0.05$

\*\* ; Significantly different from the control value (saline) at  $p < 0.001$

# ; Significantly different from the DHPN treatment group value at  $p < 0.05$

## ; Significantly different from the DHPN treatment group value at  $p < 0.001$



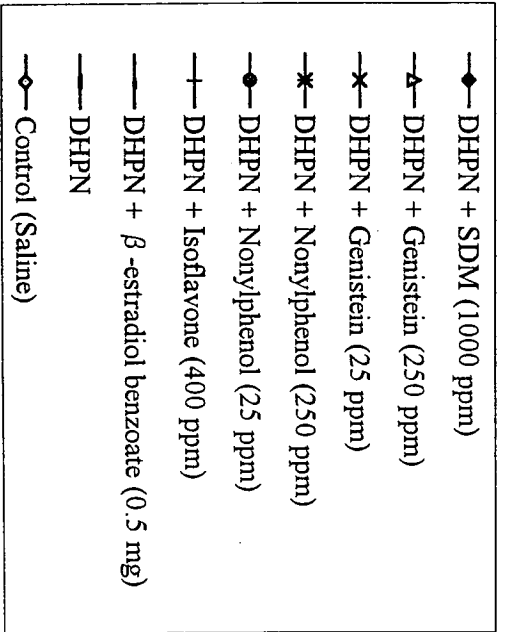
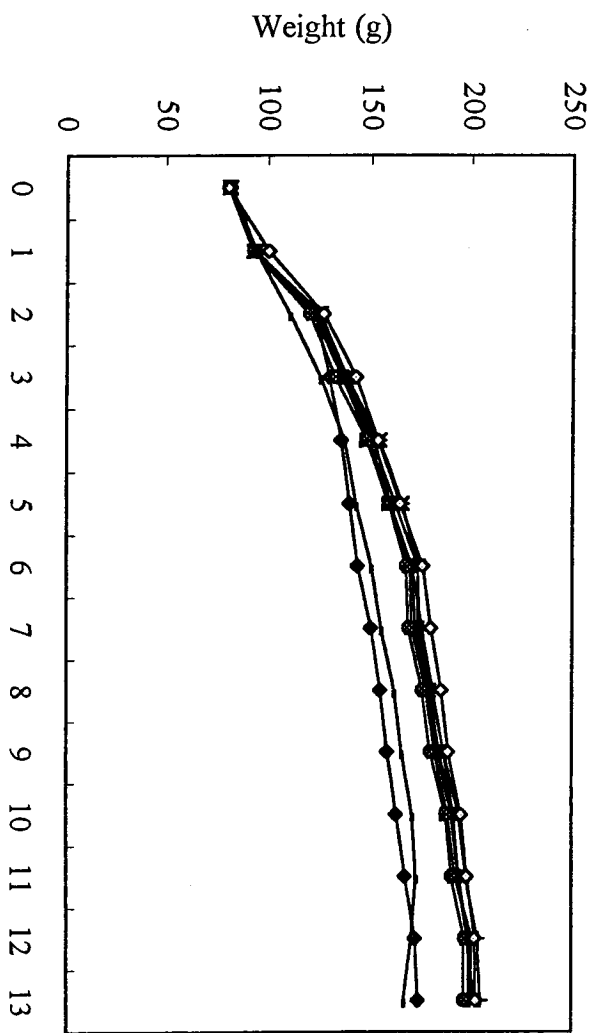
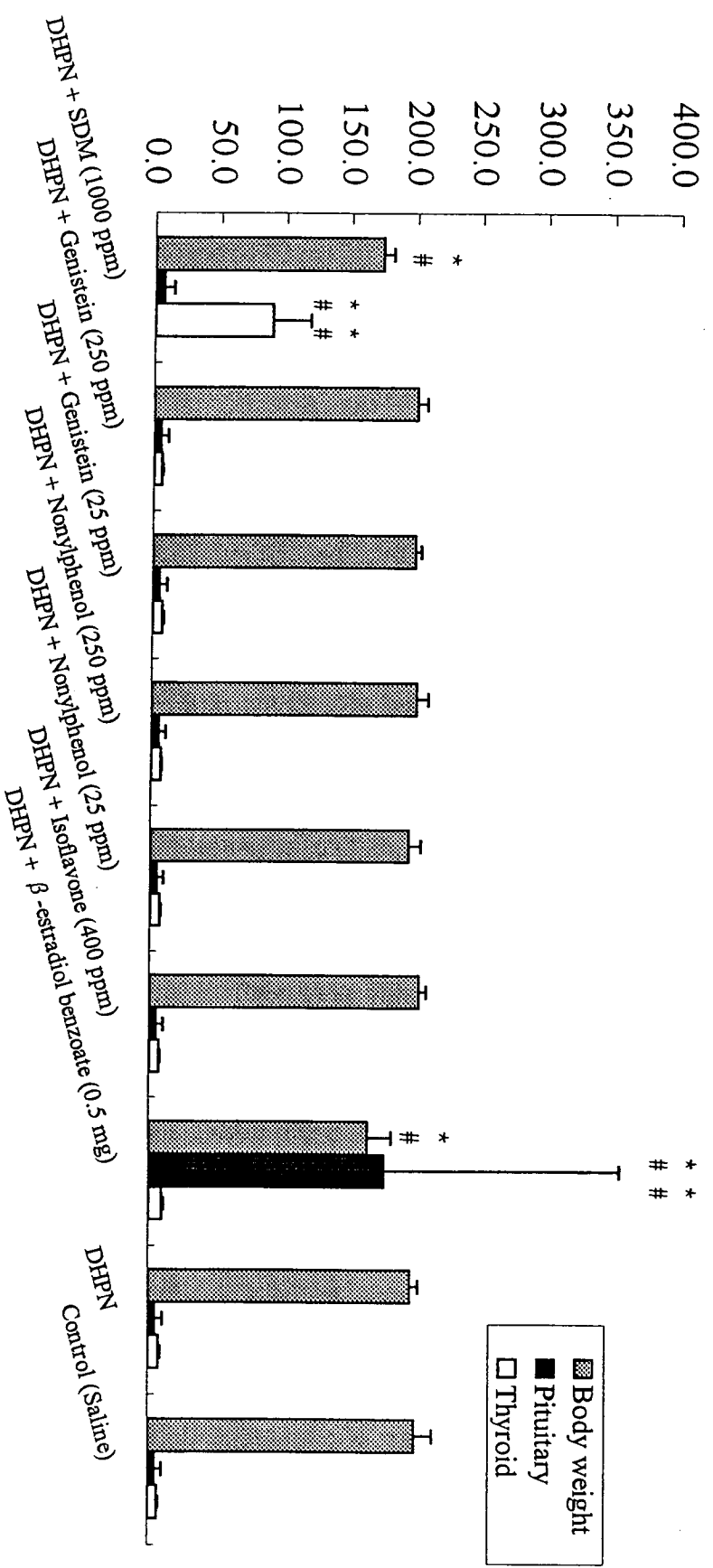


Fig. 15. Body weight curve

Weeks



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 \*\*; Significantly different from the control value (saline) at  $p < 0.001$   
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Fig. 16. Final body and relative organ weights of the thyroid and pituitary