

図 2-1 ペルオキシゾーム酵素の western blot 分析

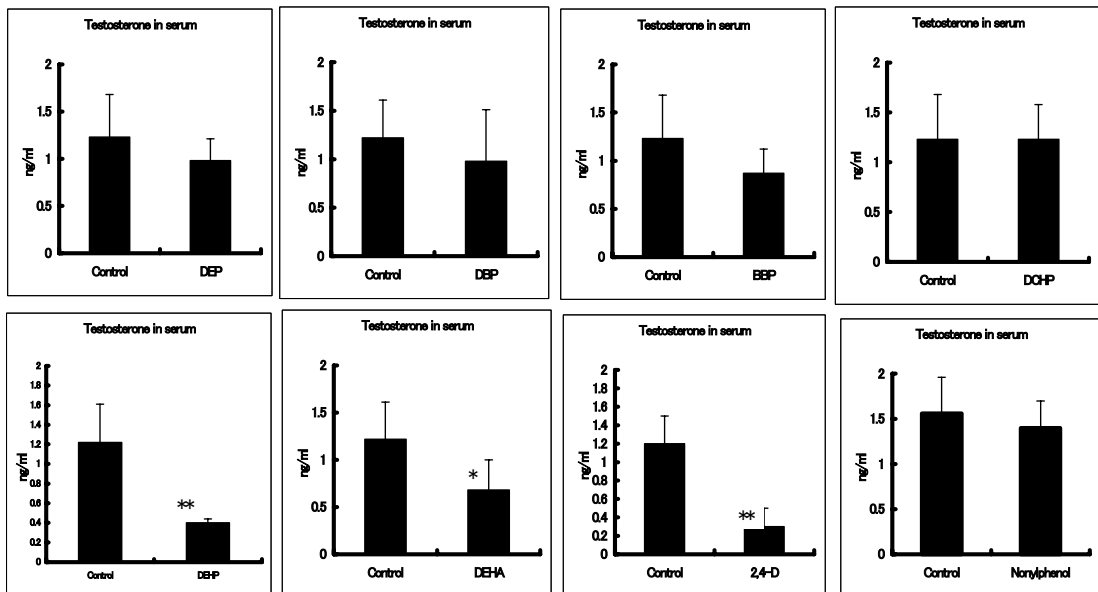


図 2-2 血清テストステロン濃度への影響

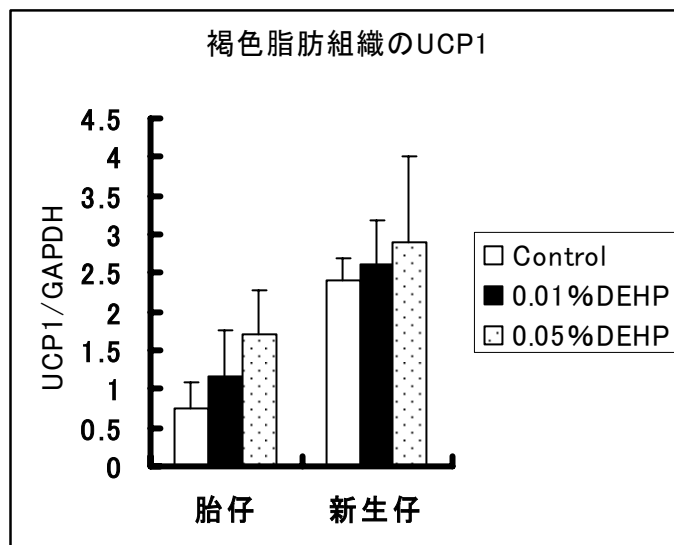


図 3-1 DEHP の UCP1 への影響

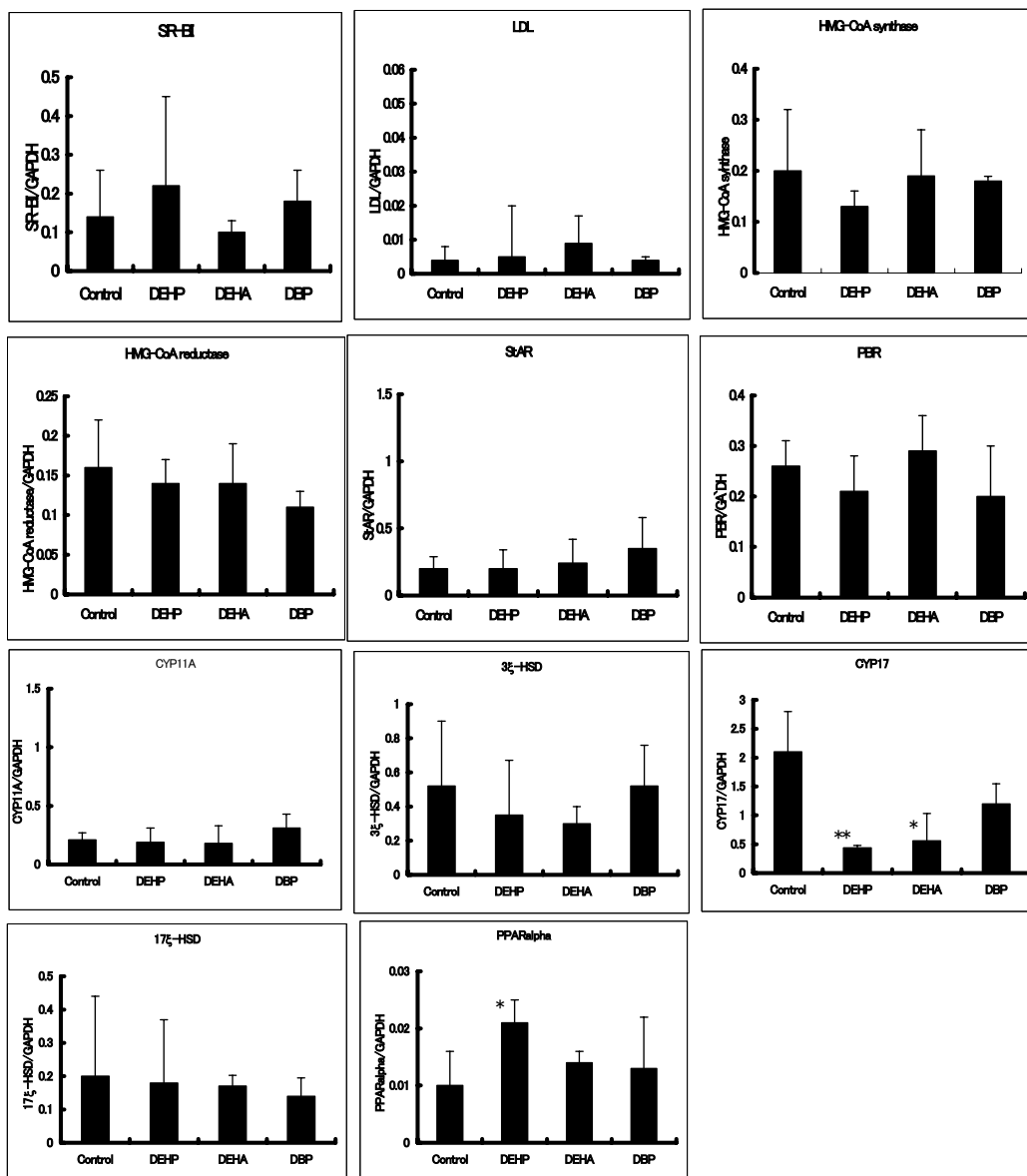


図 4-1 ライディッチ細胞における遺伝子発現への影響

表5-1 Body and organ weights

	Body weight	Liver weight	Liver/body(%)	Kidney weight	Kidney/body(%)	Testis weight	testis/body(%)
Mouse							
Control	35.6±0.9	1.99±0.12	5.57±0.34	0.54±0.07	1.53±0.21	0.25±0.02	0.70±0.06
DEHP	35.7±1.6	2.58±0.24***	7.24±0.55***	0.58±0.05	1.62±0.14	0.24±0.02	0.68±0.04
Rat							
Control	351±17	13.3±0.6	3.80±0.13	2.60±0.29	0.73±0.06	2.87±0.31	0.82±0.09
DEHP	351±21	20.3±2.2***	5.77±0.34***	2.77±0.27	0.79±0.03	2.84±0.09	0.81±0.04
Marmoset							
Control	264±20	9.9±2.0	3.93±0.55	1.52±0.31	0.61±0.11	0.83±0.14	0.33±0.07
DEHP 100	266±53	10.5±2.3	3.95±0.94	1.59±0.26	0.60±0.10	0.73±0.29	0.26±0.09
DEHP 500	258±32	9.6±1.8	3.85±0.42	1.70±0.25	0.69±0.06	0.66±0.25	0.26±0.08
DEHP 2500	267±30	9.1±1.1	3.67±0.26	1.75±0.21	0.71±0.05	0.75±0.41	0.29±0.16

***Significantly different from control (p<0.001)

表 5-2 Species differences in regard to lipase activities (pmol/mg protein/min)

	Microsomes		Homogenates		
	Liver	Liver	Small intestine	Kidney	Lung
Mouse	4445±577 ^a	1339±261 ^a	5764±1147 ^a	956±87 ^a	53±20
Rat	2232±298 ^b	718±152 ^b	428±146	105±31 ^b	57±19
Marmoset	108±16 ^c	62±11 ^c	39±17 ^c	21±7 ^c	ND

Values represent the mean ± standard deviations for each group.

^aSignificant difference between mice and rats ($p<0.05$)

^bSignificant difference between rats and marmosets ($p<0.05$)

^cSignificant difference between mice and marmosets ($p<0.05$)

表 5-3 Species differences in K_m and V_{max} values of lipase activity for DEHP in hepatic microsomes from mouse, rat, and marmoset

	Mouse	Rat	Marmoset
K_m (mM)	0.012	0.006	1.357
V_{max} (nmol/mg protein/min)	3.91	1.32	0.49
V_{max}/K_m	333	227	1.38

Values represent the mean of triplicate analyses for each group

表 5-4 Species differences in regard to hepatic UGT activity (nmol/mg protein/min)

Substrate	Mouse	Rat	Marmoset
<i>MEHP</i>			
Liver	0.66±0.10	0.51±0.12	0.25±0.04 ^{b,c}

^bSignificant difference between rats and marmosets ($p<0.05$)

^cSignificant difference between mice and marmosets ($p<0.05$)

表 5-5 Species differences in regard to ADH activities (nmol/mg protein/min) for 2-ethylhexanol and 2-phenoxyethanol

	Mouse	Rat	Marmoset
<i>2-EH (10μM)</i>			
Liver	32.7±4.4	26.3±6.2	43.3±6.2 ^{b,c}
Small intestine	3.55±2.37	10.72±1.36 ^a	13.78±7.26 ^c
Kidney	0.43±0.85	0.65±0.38	ND
Lung	2.21±2.48	3.47±1.47	4.72±0.29
<i>2-POET (10μM)</i>			
Liver	ND	ND	11.25±2.5
Small intestine	1.80±1.97	5.69±2.47	1.72±2.55
Kidney	ND	ND	ND
Lung	ND	ND	ND

Values represent the mean \pm standard deviations for each group.

^aSignificant difference between mice and rats ($p<0.05$)

^bSignificant difference between rats and marmosets ($p<0.05$)

^cSignificant difference between mice and marmosets ($p<0.05$)

表 5-6 Species differences in regard to ALDH activities (nmol/mg protein/min) for 3-phenylpropionaldehyde and 2-ethylhexanal

	Mouse	Rat	Marmoset
<i>2-Ethylhexanal (10μM)</i>			
Post-mitochondrial fraction			
Liver	7.7 \pm 2.9	14.0 \pm 2.4 ^a	12.9 \pm 2.7
Mitochondrial fraction			
Liver	5.4 \pm 1.9	32.8 \pm 10.8 ^a	14.4 \pm 7.6 ^b
Small intestine	2.56 \pm 1.38	6.68 \pm 2.77	7.86 \pm 4.89
Kidney	ND	4.74 \pm 0.81	22.11 \pm 1.71 ^{b,c}
Lung	2.68 \pm 0.93	5.14 \pm 1.60 ^a	4.64 \pm 0.72
<i>3-Phenyl propionaldehyde (10μM)</i>			
Post-mitochondrial fraction			
Liver	9.9 \pm 1.8	15.9 \pm 2.4 ^a	25.8 \pm 0.6 ^{b,c}
Mitochondrial fraction			
Liver	6.1 \pm 1.3	21.0 \pm 5.2 ^a	27.3 \pm 4.5 ^c
Small intestine	2.77 \pm 2.40	9.95 \pm 0.98 ^a	38.65 \pm 5.10 ^{b,c}
Kidney	ND	3.79 \pm 0.92	39.30 \pm 1.98 ^b
Lung	2.62 \pm 1.24	4.07 \pm 1.93	8.15 \pm 2.70 ^{b,c}

Values represent the mean \pm standard deviations for each group.

^aSignificant difference between mice and rats ($p < 0.05$)

^bSignificant difference between rats and marmosets ($p < 0.05$)

^cSignificant difference between mice and marmosets ($p < 0.05$)

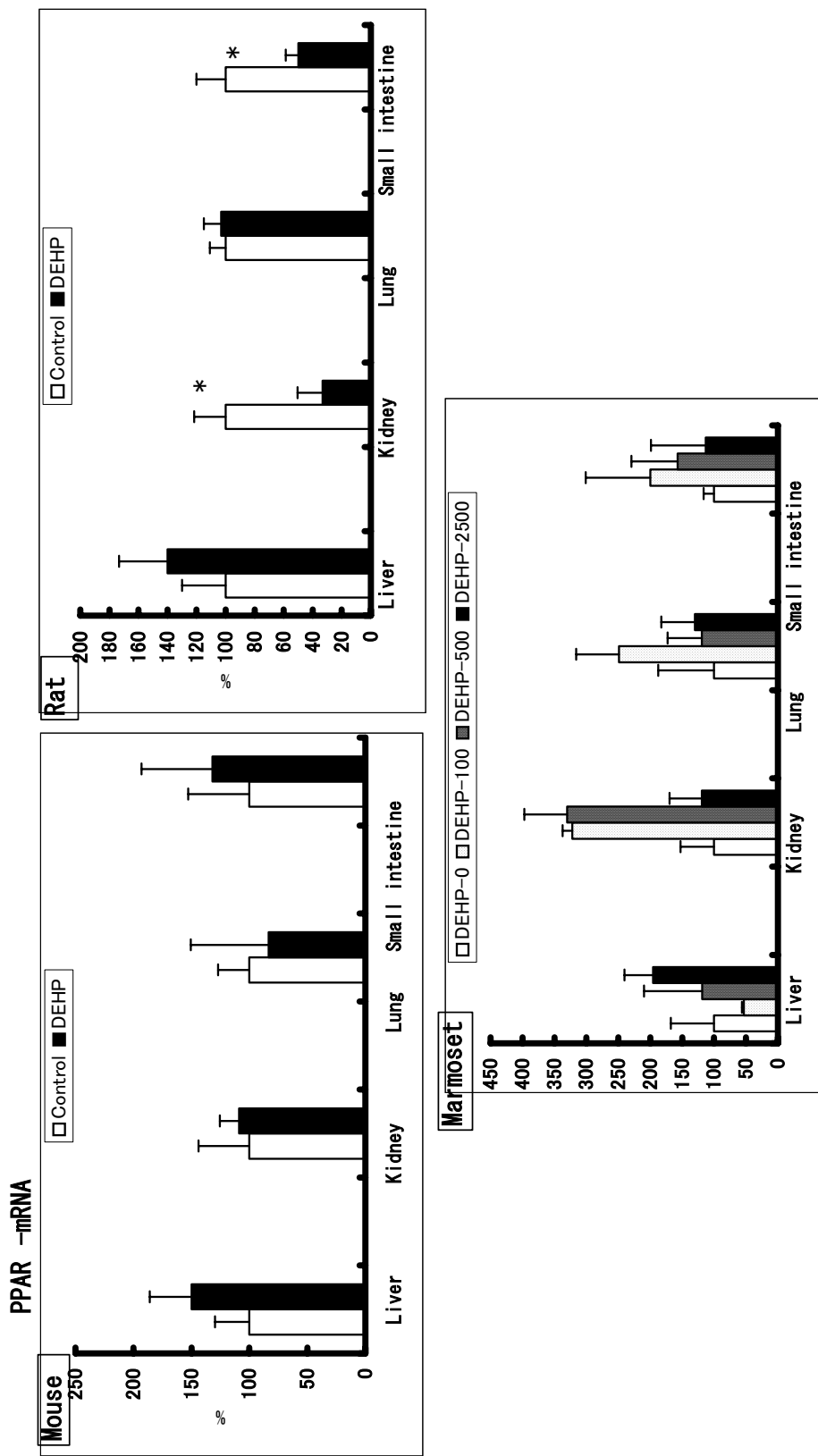


図 5-1 マウス、ラット、マーマセットの PPAR α 遺伝子発現