表 5-7　DEHP のリパーゼ遺伝子発現への影響

Lipase-mRNA/GAPDH-mRNA

	Liver	Kidney	Lung	Small intestine
Mouse				
Control	1.48±0.67	7.45±2.10	8.21±2.86	0.21±0.06
DEHP	2.36±0.93	4.38±0.84*	10.26±5.44	0.27±0.31
Rat				
Control	0.54±0.04	0.45±0.05	4.98±1.32	0.10±0.08
DEHP	0.99±0.20*	0.22±0.03*	6.43±1.65	0.08±0.03
Marmoset				
Control	ND	0.0049±0.0036*	0.0033±0.0016*	0.0028±0.0012*
DEHP 100	ND	0.0145±0.0054	0.0095±0.0019	0.0029±0.0005
DEHP 500	ND	0.0067±0.0030	0.0097±0.0114	0.0020±0.0018
DEHP 2500	ND	0.0066±0.0016	0.0073±0.0053	0.0022±0.0024

*p<0.05

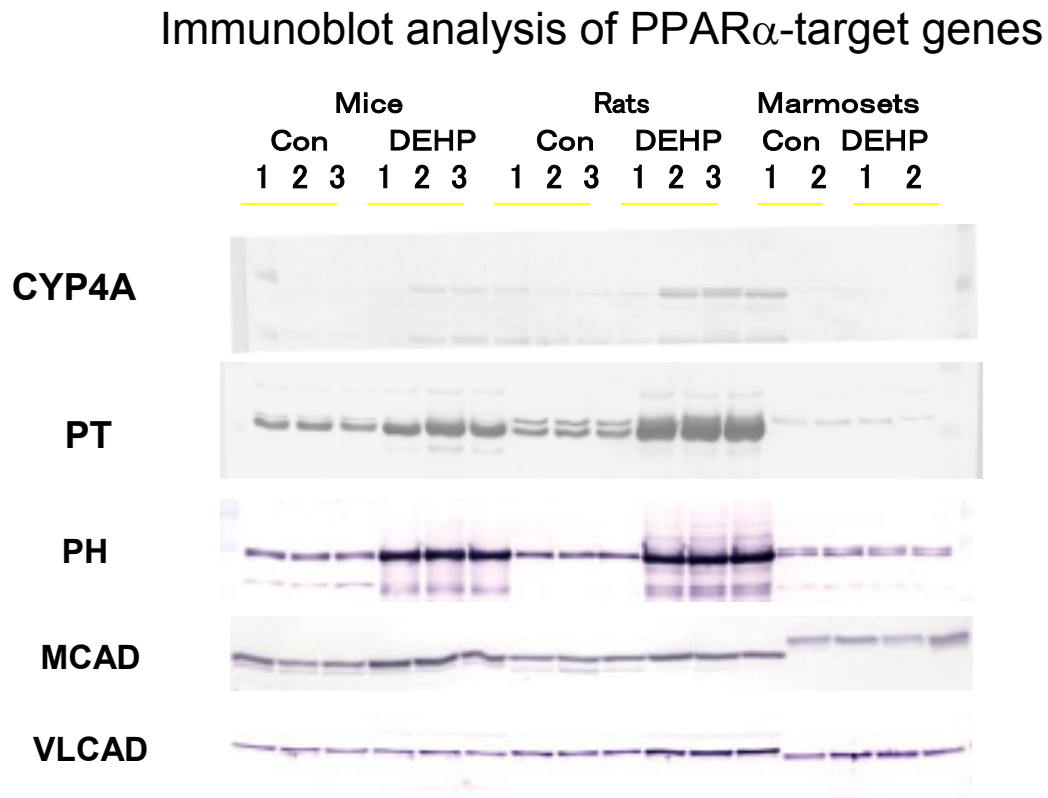
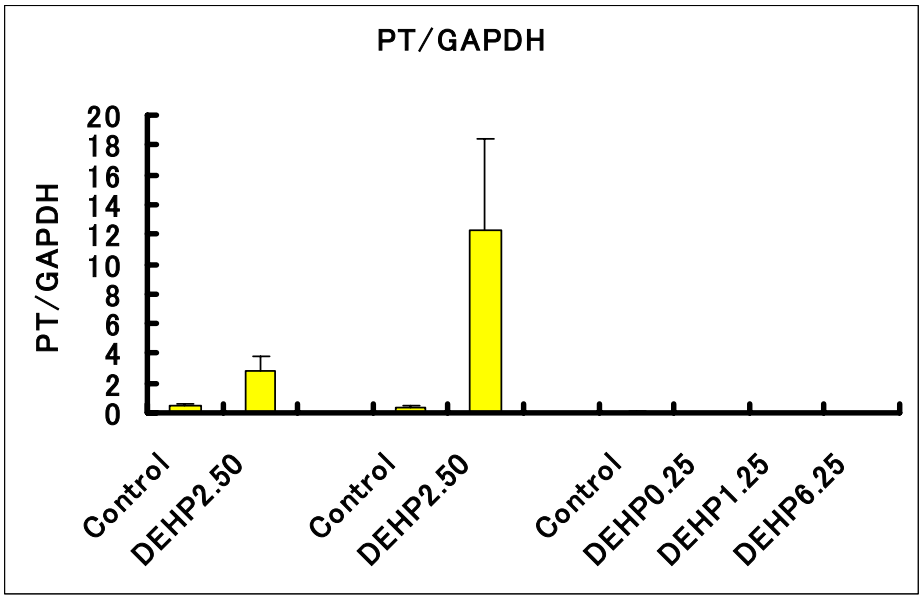
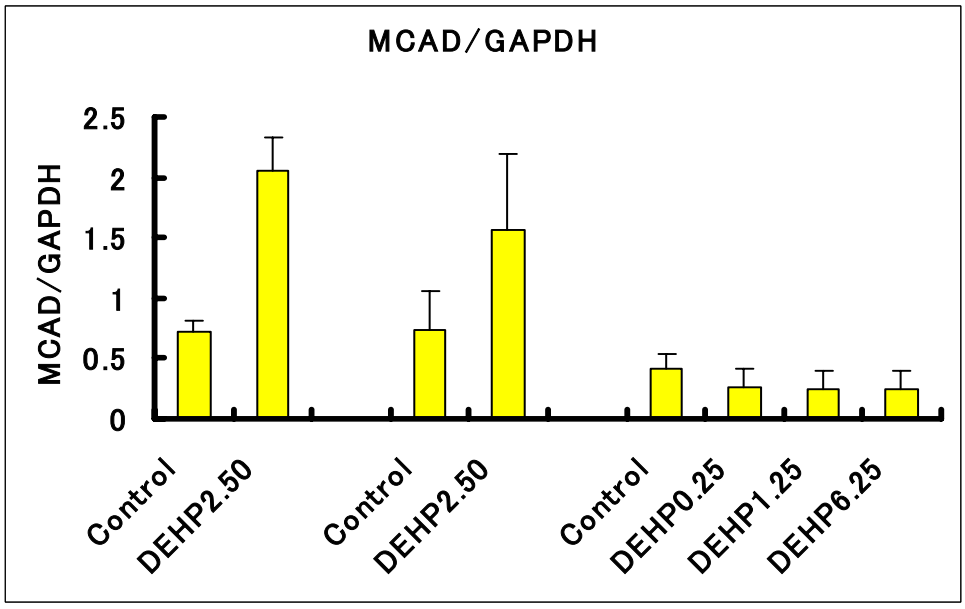


図 5-2　DEHP による遺伝子発



PT-mRNA



MCAD-mRNA

図 5-3　ｍＲＮＡの発現
（マウス、ラット、マーモセットの順）

Mechanism of probable endocrine disruptor di(2-ethylhexyl)phthalate on reproductive or developmental toxicity and the risk assessment

Tamie Nasu-Nakajima, Nagoya University Graduate School of Medicine.

Abstract

1) Di(2-ethylhexyl)phthalate (DEHP) treatment (0.05%, feeding) decreased survival rates of fetuses and new born pups in wild-type mice, but not in PPARα-null mice. Thus, the developmental toxicity of DEHP may be related to the PPARα gene.
2) DEHP decreased serum testosterone levels in wild-type mice, which may be related to the decreased CYP17-mRNA in Leydig cells.
3) DEHP was the strongest ligand to PPARα in the phthalic acids investigated.
4) There was a great species difference in lipase activity, measured by the rate of formation of mono(2-ethylhexyl)phthalate (MEHP) from DEHP, among mice, rats and marmosets: the activity was highest in the mice and lowest in the marmosets. This might be because of the significant differences between Vmax/Km values of lipase for DEHP among species.
5) There was also a species difference in the induction of PPARα-target genes by DEHP: in the peroxisomal enzymes, the induction was most prominent in rats, followed by mice and marmosets. The differences were not related to PPARα levels.

Thus, the results suggest the need for close attention to uncertainty when data are extrapolated from animal to human.