Table 3.1: Percentage of MEHP-induced apoptotic spermatogenic cells. Apoptotic spermatogenic cells are detected by TUNEL staining. Arrows indicate spermatogenic cells undergoing apoptosis.

TIME	Concentration of MEHP (nmol/ml)				
	Control	$1x10^{-6}$	$1x10^{-3}$	1	100
1 hr	0.5% ± 0.4%	0.9% ± 0.5%	1.1% ± 0.4%	1.5% ± 0.4%	1.7% ± 0.4%
3 hr	1% ± 0.4%	1.4% ± 0.4%	1.6% ± 0.4	2% ± 0.3%	2.5% ± 0.3%
6 hr	1.2% ± 0.4%	2.3% ± 0.6%	2.5% ± 0.7%	3% ± 0.6%	6.8% ± 1.1%
9 hr	2.8% ± 0.4%	6.1% ± 1.1%	7.4% ± 0.7%	9.8% ± 2.5%	14% ± 5.2%

Table 3-2 MEHP-induced apoptotic spermatogenic cells per 10 round seminiferous tubules

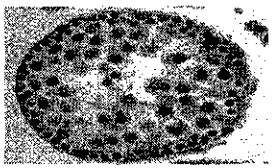
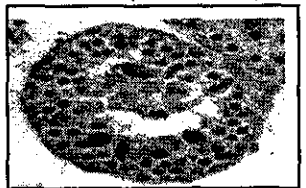
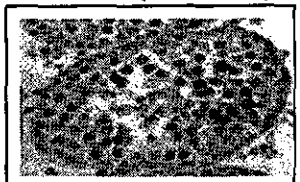
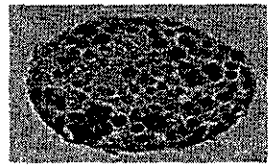
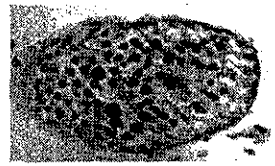
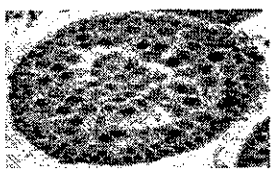
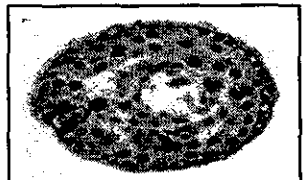
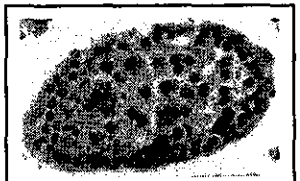
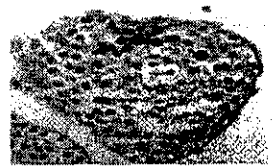
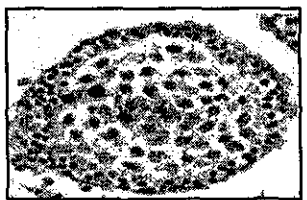
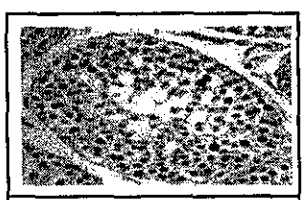
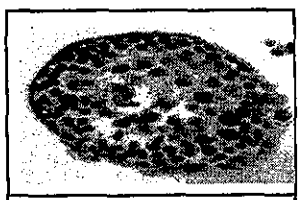
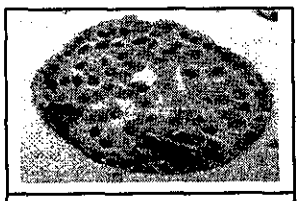
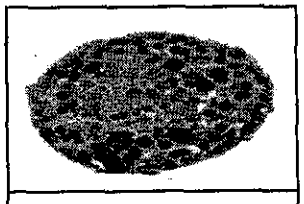
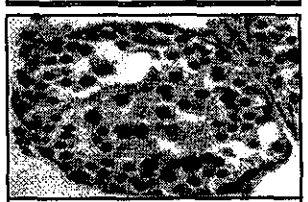
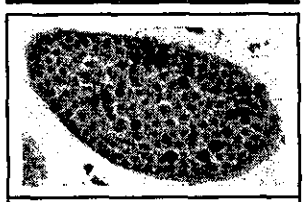
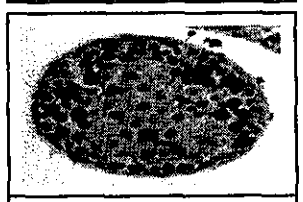
	Control	$1x10^{-6}$ (nmol/ml)	$1x10^{-3}$ (nmol/ml)	1 (nmol/ml)	100 (nmol/ml)
1 hr	 6.3 ± 1.7	 9 ± 3.1	 12.3 ± 2.3	 15.7 ± 1.9	 19.7 ± 0.3
3 hr	 6.7 ± 0.9	 9.3 ± 1.2	 14.3 ± 0.9	 17 ± 0.6	 20.7 ± 1.9
6 hr	 11 ± 2.1	 11.3 ± 2.0	 15.3 ± 2.7	 20.3 ± 1.2	 22.7 ± 3.5
9 hr	 15 ± 3.2	 24 ± 1.5	 28 ± 0.6	 28.7 ± 3.5	 31.3 ± 0.3

Table 3-3 Percentage of MEHP-induced apoptotic spermatogenic cells per total cells in adult monkey testis (*in vitro*). Arrows indicate apoptotic spermatogenic cell (TUNEL staining).

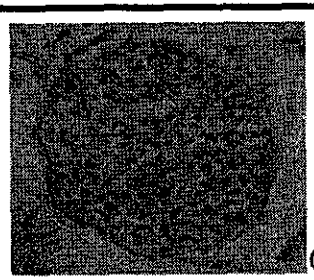
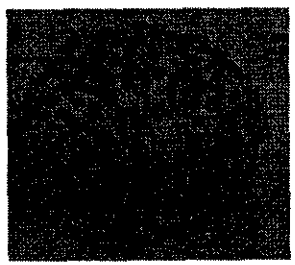
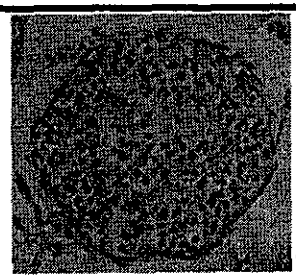
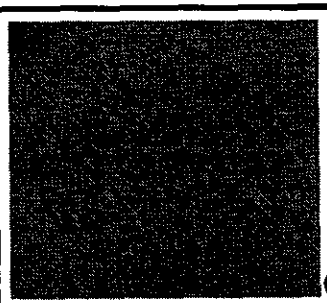
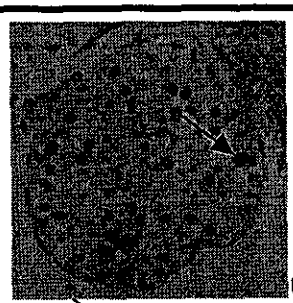
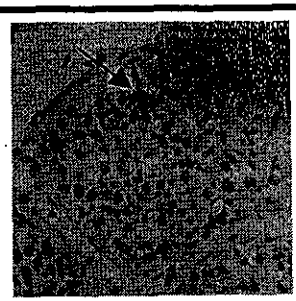
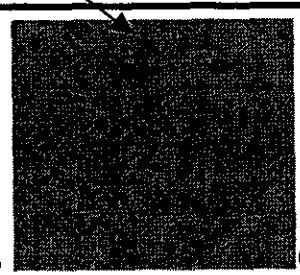
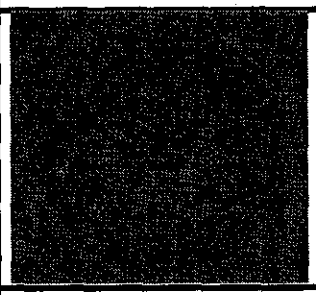
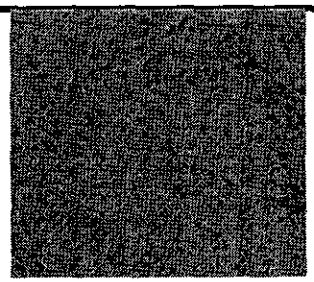
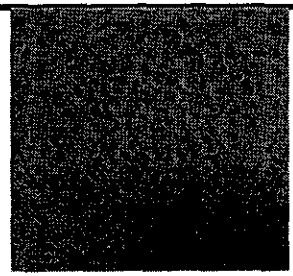
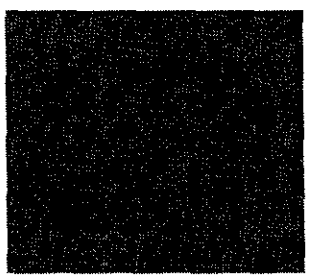
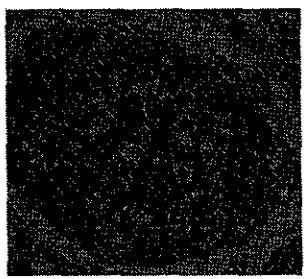
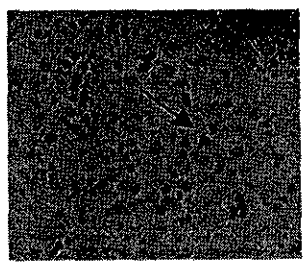
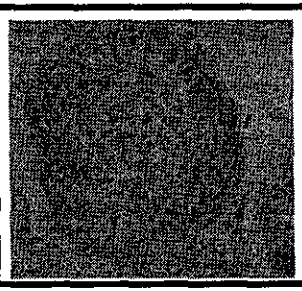
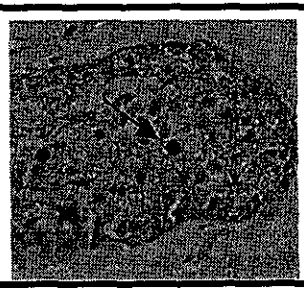
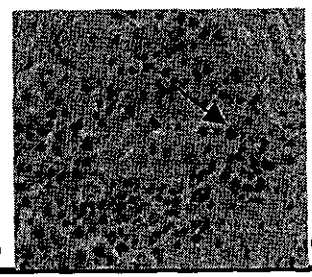
TIME	Concentration of MEHP (nmol/ml)		
	Control	1 nmol/ml	100 nmol/ml
3 hr	 0% ± 0%	 0% ± 0%	 0% ± 0%
6 hr	 0.05% ± 0.05%	 0.06%± 0.02%	 0.11% ± 0.06%
9 hr	 0.07% ± 0.03%	 0.19% ± 0.08%	 0.36% ± 0.13%

Table 3-4 Percentage of MEHP-induced apoptotic spermatogenic cells in **adult Shiba goat** testis (*in vitro*). Arrows indicate apoptotic spermatogenic cells (TUNEL staining).

TIME	Concentration of MEHP (nmol/ml)		
	Control	1 nmol/ml	100 nmol/ml
3 h	 0% ± 0%	 0% ± 0%	 0% ± 0%
6 h	 0% ± 0%	 0%± 0%	 0.01% ± 0.02%
9 h	 0% ± 0%	 0.02% ± 0.02%	 0.04% ± 0.04%

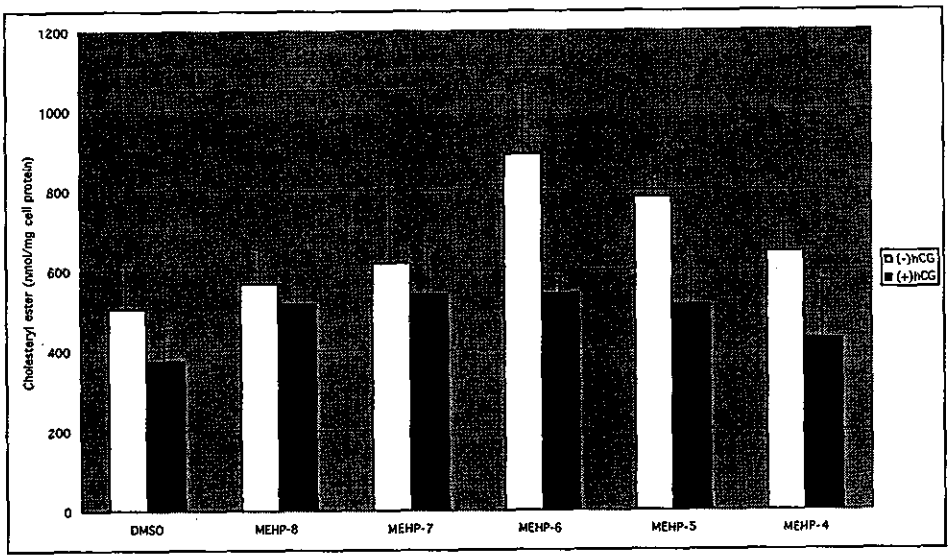


Fig. 4-1
MEHPによる細胞内コレステロールエステルの蓄積

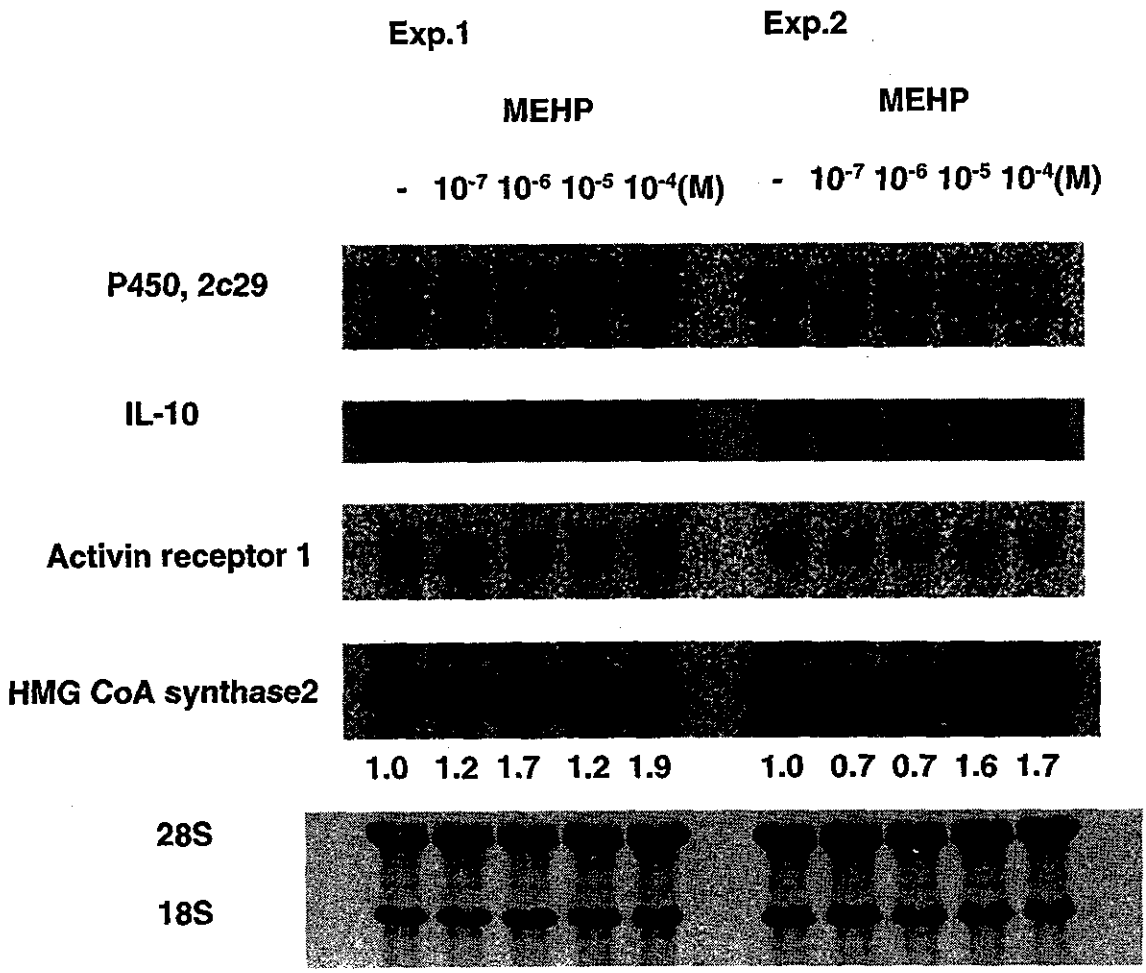


Fig. 4-2 Northern blotによる遺伝子発現変化の確認

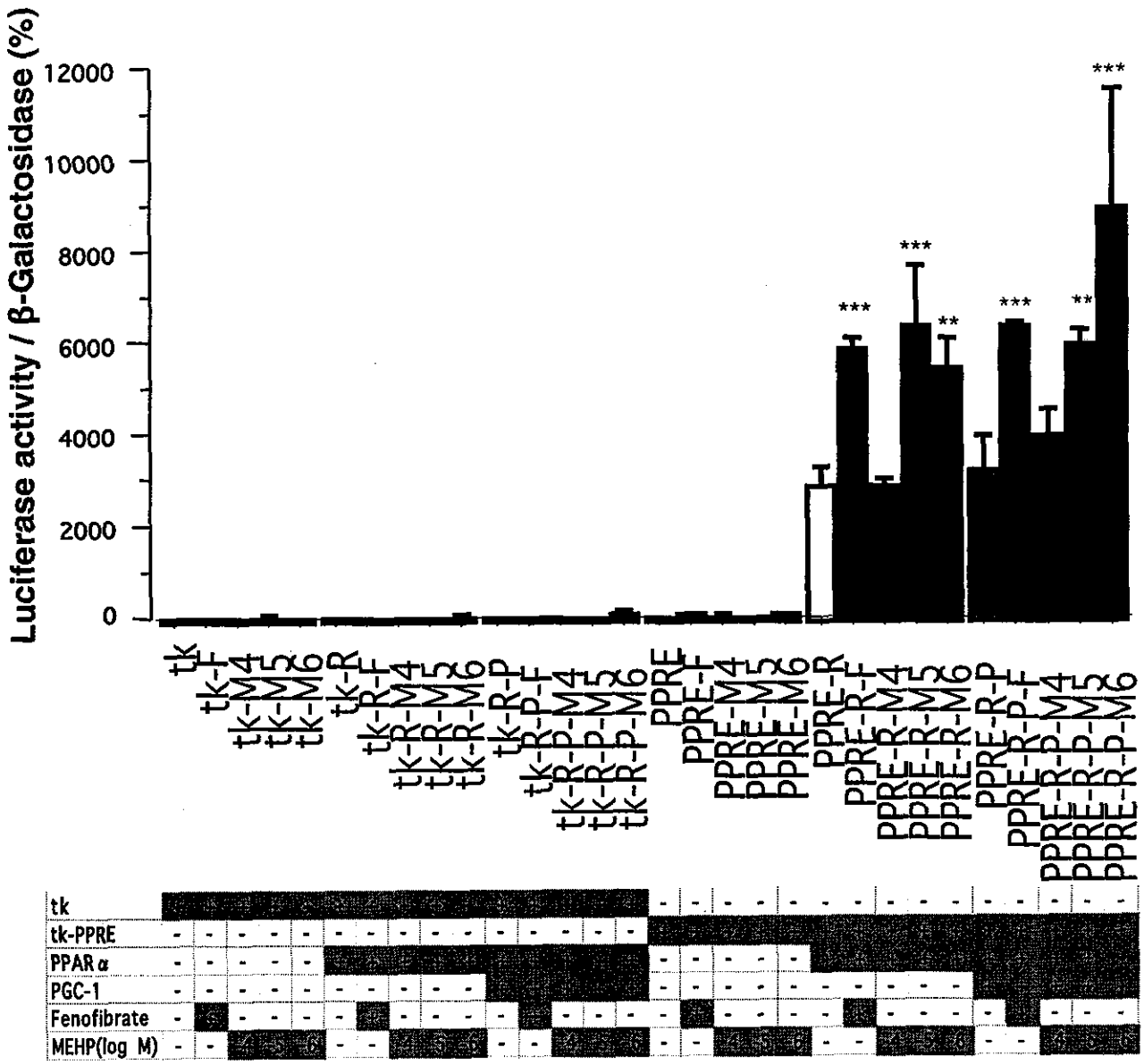


Fig. 4-3 MEHPによるPPARαの活性化
***p<0.001, **p<0.01 versus PPRE-R
***p<0.001, **p<0.01 versus PPRE-R-P

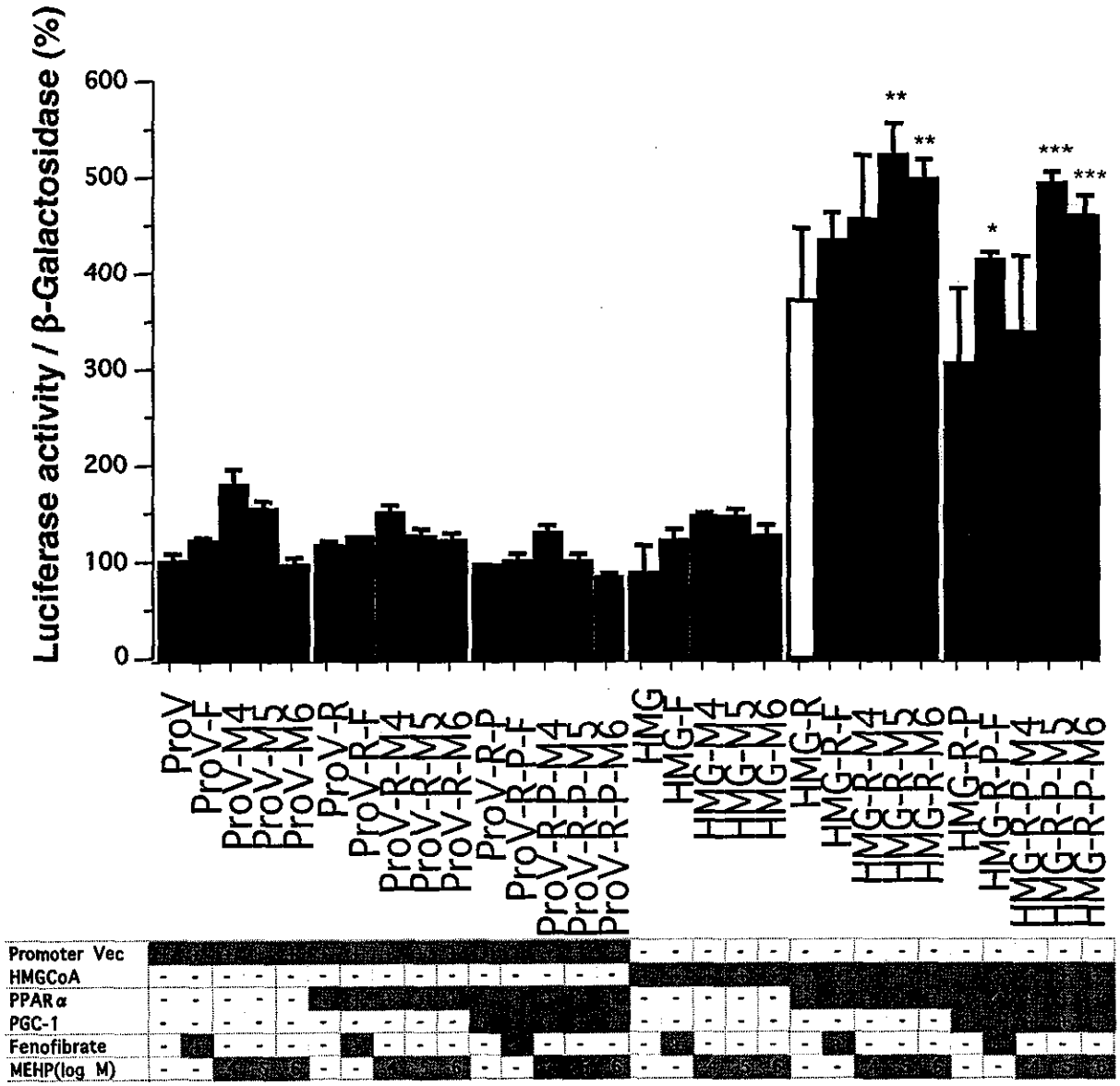


Fig. 4-4 MEHPによるHMG CoA synthase 2遺伝子のプロモーターの活性化

**p<0.01 versus HMG-R

***p<0.001, *p<0.05 versus HMG-R-P

-54 -35

agacctttggcccagttttt Motif : PPARalpha/RXR-alpha

aaaaactgggccaaaggtct

CWRAWCTAGGNCAAAGGTCA(コンセンサス配列)

Fig. 4-5

HMG CoA synthase 2遺伝子のプロモーター 領域におけるPPARα結合部位

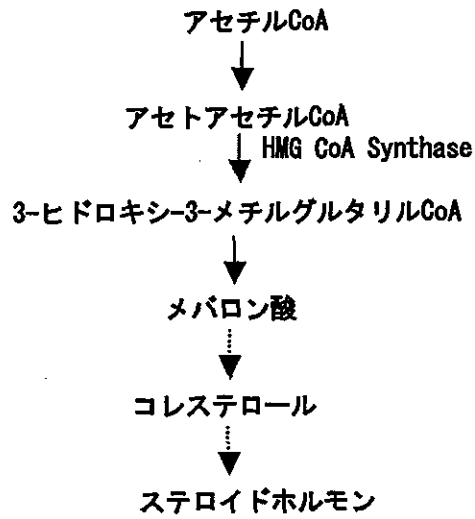


Fig. 4-6

HMG CoA synthase 2のLeydig細胞における働き

別紙４

研究成果の刊行に関する一覧表

書籍

著者氏名	論文タイトル名	書籍全体の編集者名	書籍名	出版社名	出版地	出版年	ページ
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鈴木正寿, 西原真杉	脳の性分化における分子機構—グラニュリンの関わり—	性差と医療	2	157-160	2005
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Ema, M., Miyawaki, E., Hirose, A., et al.	Decreased anogenital distance and increased incidence of undescended testes in fetuses of rats given monobutyl phthalate, a major metabolite of butyl benzyl phthalate.	Reprod. Toxicol.	17	407-412	2003
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研究成果の刊行物・別刷