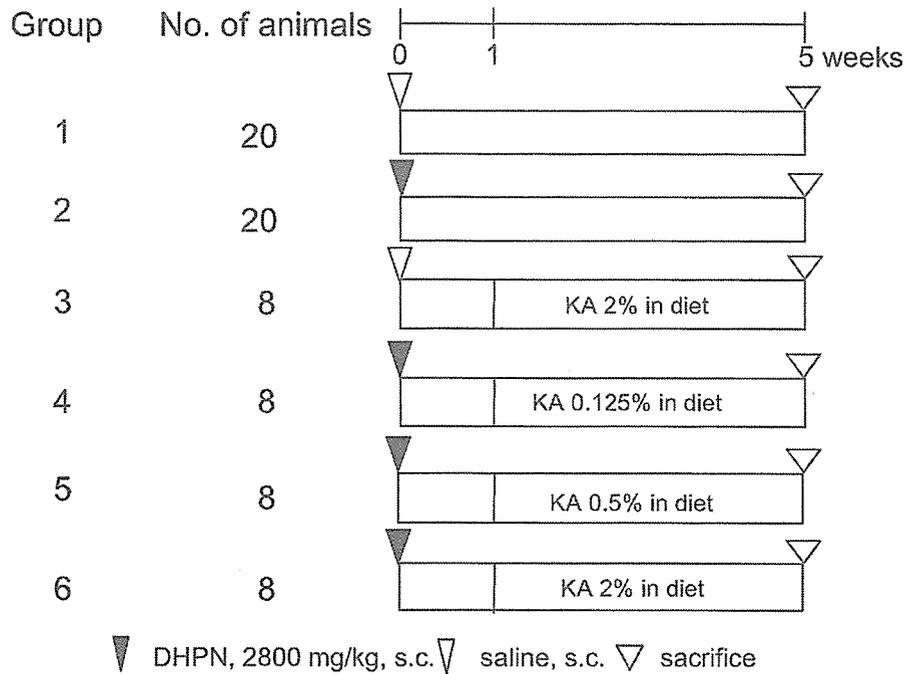
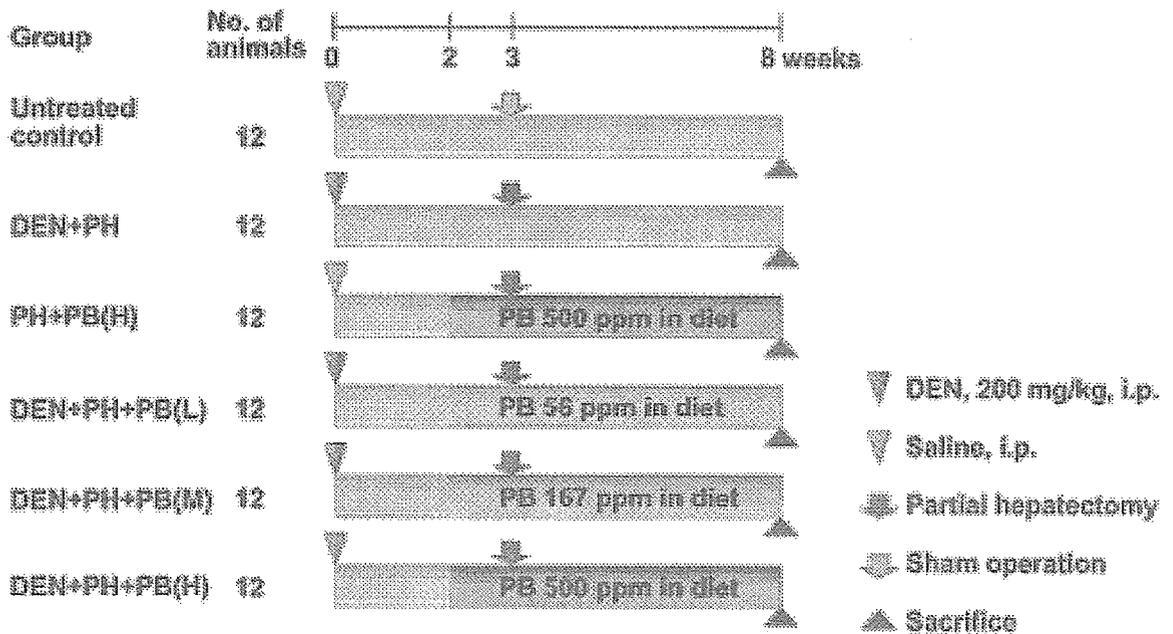


F 1. Possible mechanism of thyroid carcinogenesis due to hypothyroidism by SDM and KA.



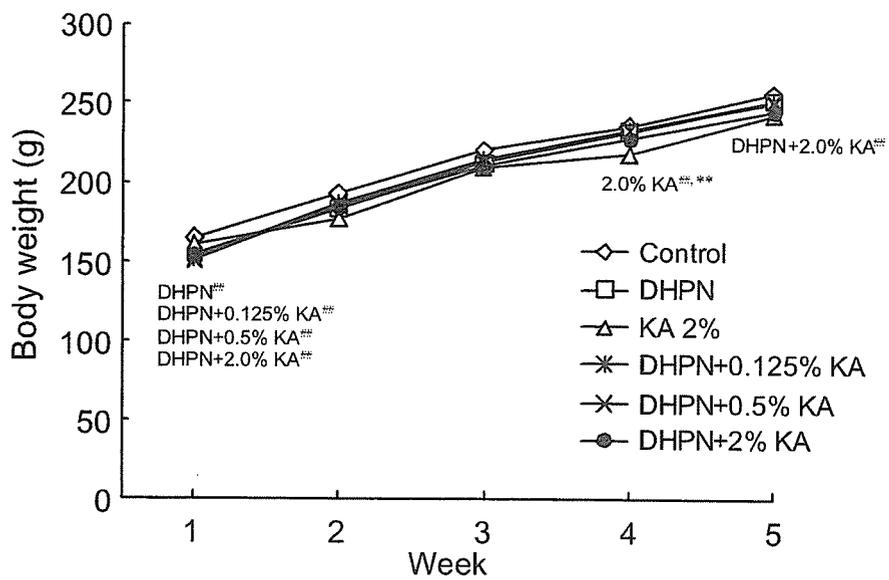
F 2

Experimental design of the tumor promotion study on rat thyroid carcinogenesis by KA in the two-stage model using DHPN as an initiator.



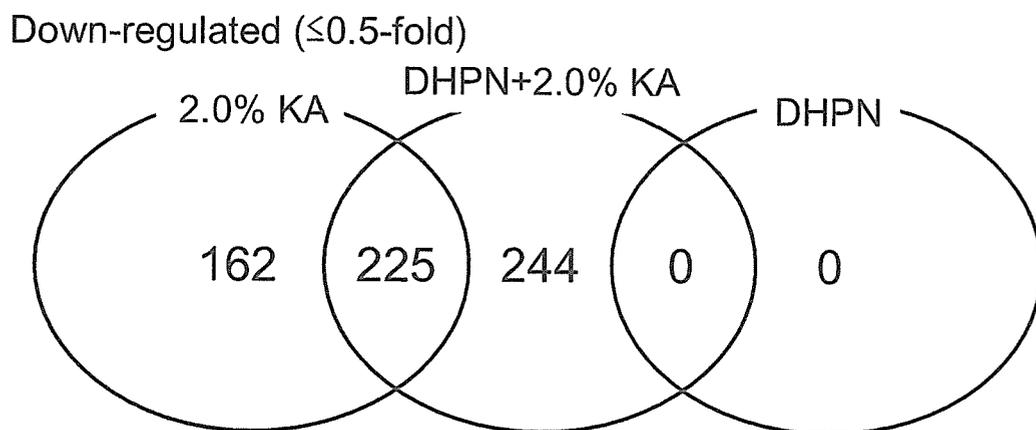
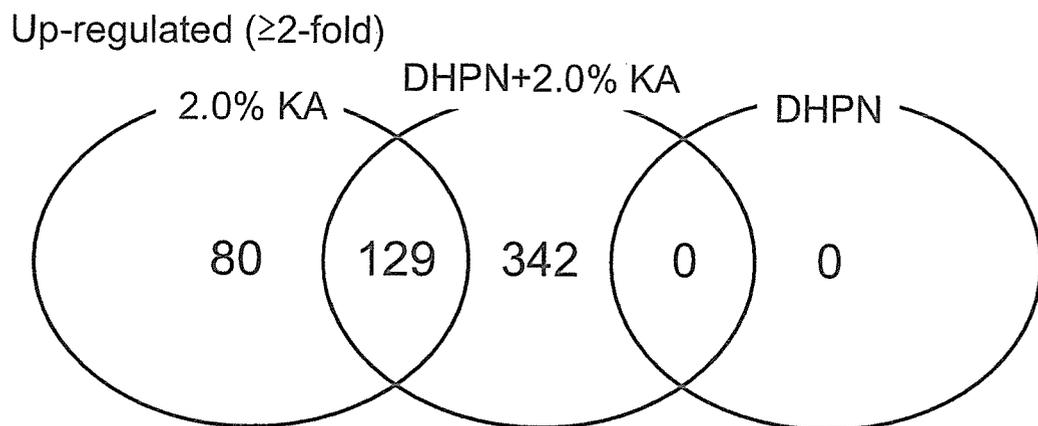
F 3

Experimental design of the tumor promotion study on rat hepatocarcinogenesis by PB using medium-term liver bioassay.



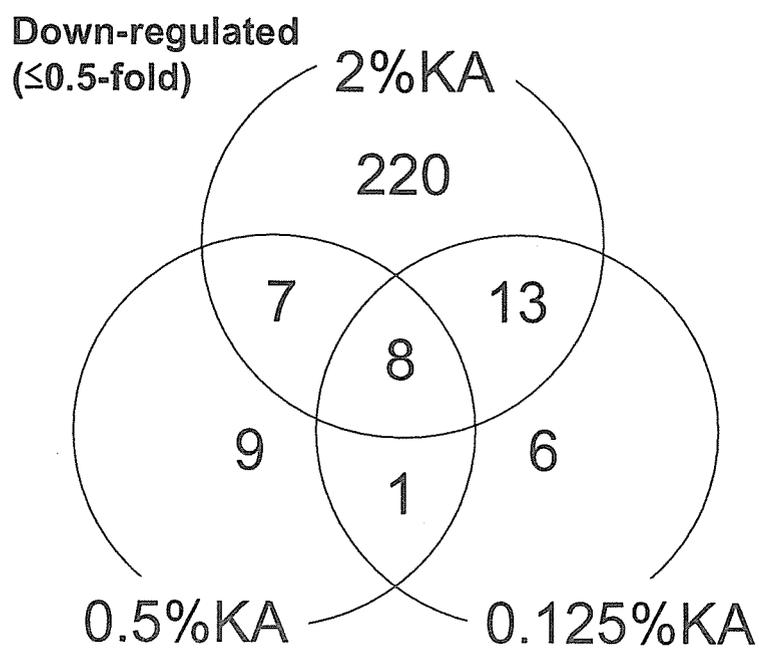
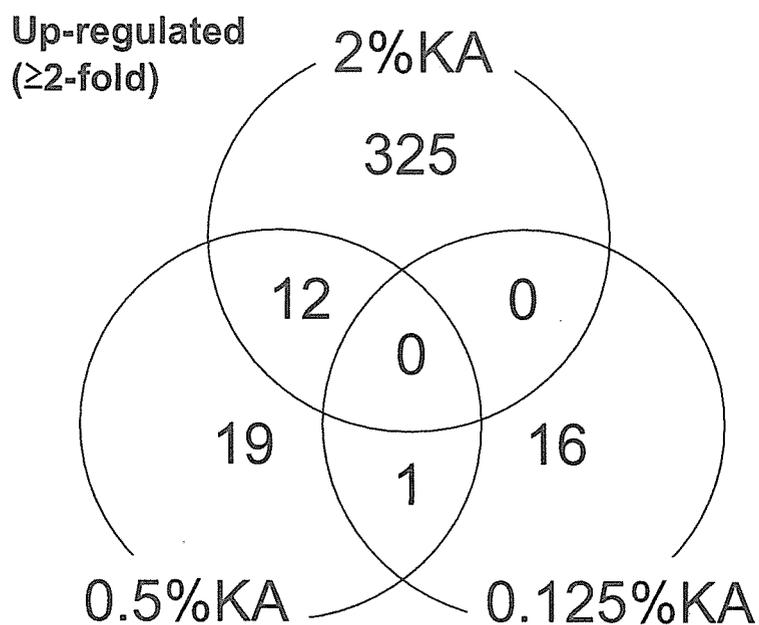
### : Significantly different from the untreated group (# P<0.05, ###P<0.01).  
 \*\*: Significantly different from the DHPN group (P<0.01).

F图4 Growth curve of male F344 rats treated with KA in the two-stage thyroid carcinogenesis model using DHPN as an initiator.



F 5

Number of genes showing up- or down-regulation in response to DHPN+2.0% KA-treatment. Common genes between DHPN-initiated and 2.0% KA groups.



F6  
 Number of genes showing up- or down-regulation in dose-related response to DHPN+0.125, 0.5 and 2.0% KA-treatment.

F表1

Final body, absolute and relative thyroid weights of male F344 rats after 4-week KA-treatment in the two-stage thyroid carcinogenesis model using DHPN as an initiator.

	Group					
	Untreated	DHPN	KA 2%	DHPN+KA (%)		
				0.125	0.5	2
Final body weight (g)	253.1 ± 16.6 <sup>a</sup>	246.7 ± 16.2	237.0 ± 6.5	244.4 ± 10.9	246.2 ± 9.0	241.1 ± 7.9
Thyroid weight						
Absolute (mg)	9.6 ± 2.2	9.9 ± 2.5	53.2 ± 6.2 <sup>##,*</sup>	13.7 ± 2.1	21.3 ± 1.5 <sup>##,*</sup>	43.7 ± 13.1 <sup>##,*</sup>
Relative (mg/100g b.w)	3.8 ± 1.0	4.0 ± 1.0	22.4 ± 2.5 <sup>##,*</sup>	5.6 ± 0.9	8.7 ± 0.6 <sup>##,*</sup>	18.0 ± 4.9 <sup>##,**</sup>

<sup>a</sup> Mean ±SD

<sup>##</sup>: Significantly different from the untreated group (P < 0.01).

<sup>\*\*</sup>: Significantly different from the DHPN group (P < 0.01).

F表2

Incidence of histopathological lesions in the thyroid of male F344 rats treated with KA for 4 weeks after initiation with DHPN.

	Control	DHPN	2% KA	DHPN+KA (%)		
				0.125	0.5	2
No. of animals examined	4	4	8	8	8	8
Diffuse follicular cell hypertrophy (±/+/++/+++) <sup>a</sup>	0	0	8(0/1/5/2) <sup>*,#</sup>	0	8(0/8/0/0) <sup>*,#</sup>	8(2/3/3/0) <sup>*,#</sup>
Focal follicular cell hyperplasia (±/+/++/+++) <sup>b</sup>	0	0	0	0	5(3/1/1) <sup>*,#</sup>	7(0/4/3) <sup>*,#</sup>

<sup>a</sup> Grade of the lesion: ±, minimal; +, slight; ++, moderate; +++, severe.

<sup>b</sup> Grade of the lesion was classified as the total number of lesions/section: ±, <sup>2</sup> 2 foci; +, 3-5 foci; ++, 6-14 foci; +++, <sup>3</sup> 15 foci.

<sup>\*</sup>: Significantly different from the controls (P < 0.01).

<sup>#</sup>: Significantly different from the DHPN group (P < 0.01).

### F表3

List of genes showing dose-related up-regulation by KA in the two-stage thyroid carcinogenesis model ( $\geq 2$ -fold,  $p < 0.05$ ).

Accession No.	Gene symbol	Gene title	DHPN+KA (%)		
			0.125	0.5	2.0
from 0.5% (12 genes)					
NM053338.1	Rrad	Ras related associated with diabetes	1.8*	3.4	3.5
NM022589.1	Tspan 2	tetraspan 2	1.5	2.5	3.0
NM053716.1		fructose-1,6-biphosphatase 2	1.5	2.5	3.0
AB073753.1	Kcnj6	potassium inwardly-rectifying channel, subfamily J, member 1	1.3	2.5	3.6
D45414.1	Ptpn	protein tyrosine phosphatase, receptor type, N	1.5	3.0	3.1
B1290720		EST	1.7	2.1	2.4
BF285731		EST	1.7	2.6	2.2
NM022297.1	Ddah1	dimethylarginine dimethylaminohydrase 1	1.3	2.5	2.0
NM022513.1	Slut1b1	sulfotransferase family 1B, member 1	1.1	2.4	3.3
BE113640	Slc4a1	solute carrier family 4, member 1	1.7	3.0	2.6
A1639162		EST	1.7	2.1	2.8
BF389489		TBC1D12: TBC1 domain family, member 12 (predicted)	1.2	2.7	2.7

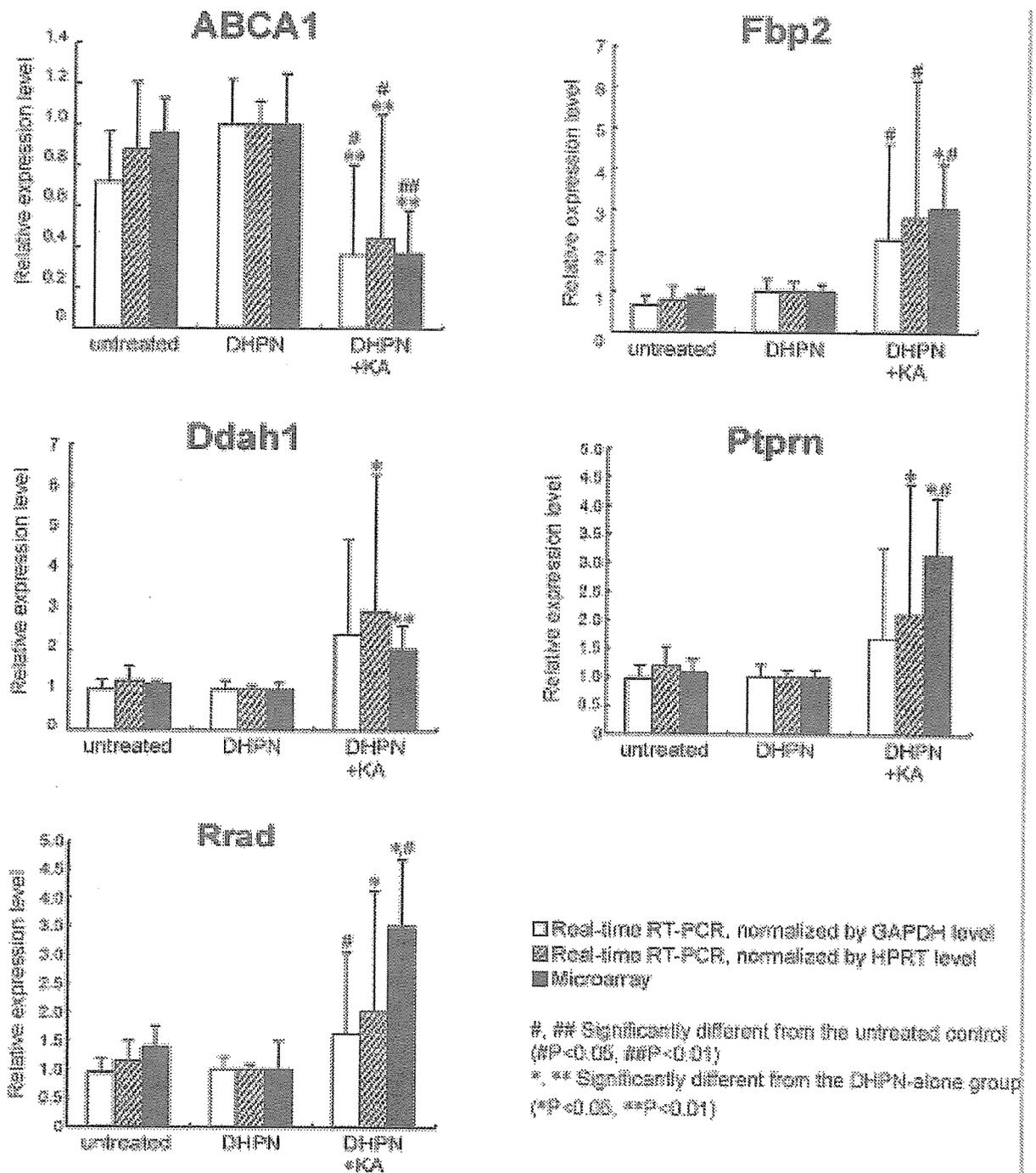
\*: x fold, vs DHPN group.

### F表4

List of genes showing dose-related up-regulation by KA in the two-stage thyroid carcinogenesis model ( $\leq 0.5$  fold,  $p < 0.05$ ).

Accession No.	Gene Symbol	Gene title	DHPN+KA (%)		
			0.125	1.0	5.0
from 0.125% (8 genes)					
BI300470		EST	0.46*	0.42	0.19
BE107282		Ischemia related factor vof-16	0.22	0.19	0.38
AA850361		EST	0.35	0.44	0.42
BF545268		Complement receptor 2 (predicted)	0.44	0.46	0.46
AA899256		similar to eukaryotic translation initiation factor 4G1	0.37	0.45	0.21
BF282471	Lcp2	Lymphocyte cytosolic protein 2 (SH2 domain containing leukocyte protein of 76kD)	0.33	0.17	0.43
AI227800		kinesin-associated protein 3 (predicted)	0.19	0.43	0.23
BE116089		EST	0.43	0.48	0.37
from 0.5% (7 genes)					
AI169367		EST	0.6	0.48	0.51
AW531880		EST	0.53	0.29	0.24
AF109674.1		late gestation lung protein 1	0.61	0.45	0.44
AA996804		strongly similar to fibulin 1 (Mus musculus)	0.49	0.43	0.45
AI454854		TGFB inducible early growth response 3 (predicted)	0.95	0.31	0.13
AI502114	Abca1	ATP-binding cassette, sub-family A (ABC1), member 1	0.69	0.4	0.37
BE105697		EST	0.53	0.34	0.46

\*: x fold, DHPN group.



**F7**

Relative expression level of genes showing dose-dependent changes detected by microarray analysis and real-time RT-PCR.

F表5

Up-regulated genes common to the carcinogenic process by 1000 ppm-SDM and 20,000 ppm-KA ( $\geq 2$ -fold,  $p < 0.05$ ).

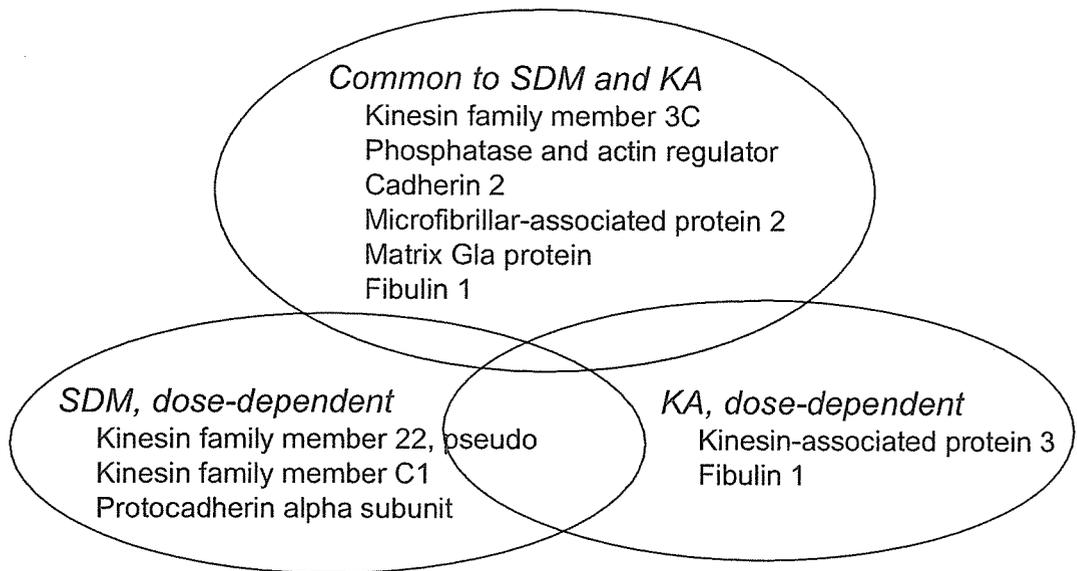
Accession No.	Gene symbol	Gene title	1000 ppm-SDM	20,000 ppm-KA
NM012914.1	Atp2a3	ATPase, Ca <sup>++</sup> transporting, ubiquitous	2.04 *	2.46
NM022858.1	Foxq1	HNF-3Forkhead homolog-1	2.06	2.98
NM053486.1	Kif3c	Kinesin family member 3C	2.04	2.43
BI286411		Immunoglobulin superfamily, member 11 (predicted)	2.31	2.25
BF415939		EST	2.99	5.04
BF417890		EST	2.93	2.40
BF396607		EST	2.27	2.25
AA996943		Phosphatase and actin regulator	1.96	2.01
AI070944		EST	2.32	3.72
NM012949.1		EST	2.18	9.22
NM130741.1	Lcn2	Lipocalin 2	2.46	2.83
NM022513.1	Slut1b1	Sulfotransferase family 1B, member 1	1.96	3.30
AI232643		Solute carrier family 25 (mitochondrial carrier, adenine nucleotide translocator), member 13	2.04	2.51
BF396595		EST	2.13	2.08
AI070875	Mgp	Matrix Gla protein	1.99	2.23
AA899386		EST	1.99	1.95
AI576190		EST	2.16	2.37
BF564059		EST	1.99	2.33

\*: x fold, vs DHPN group

F表6

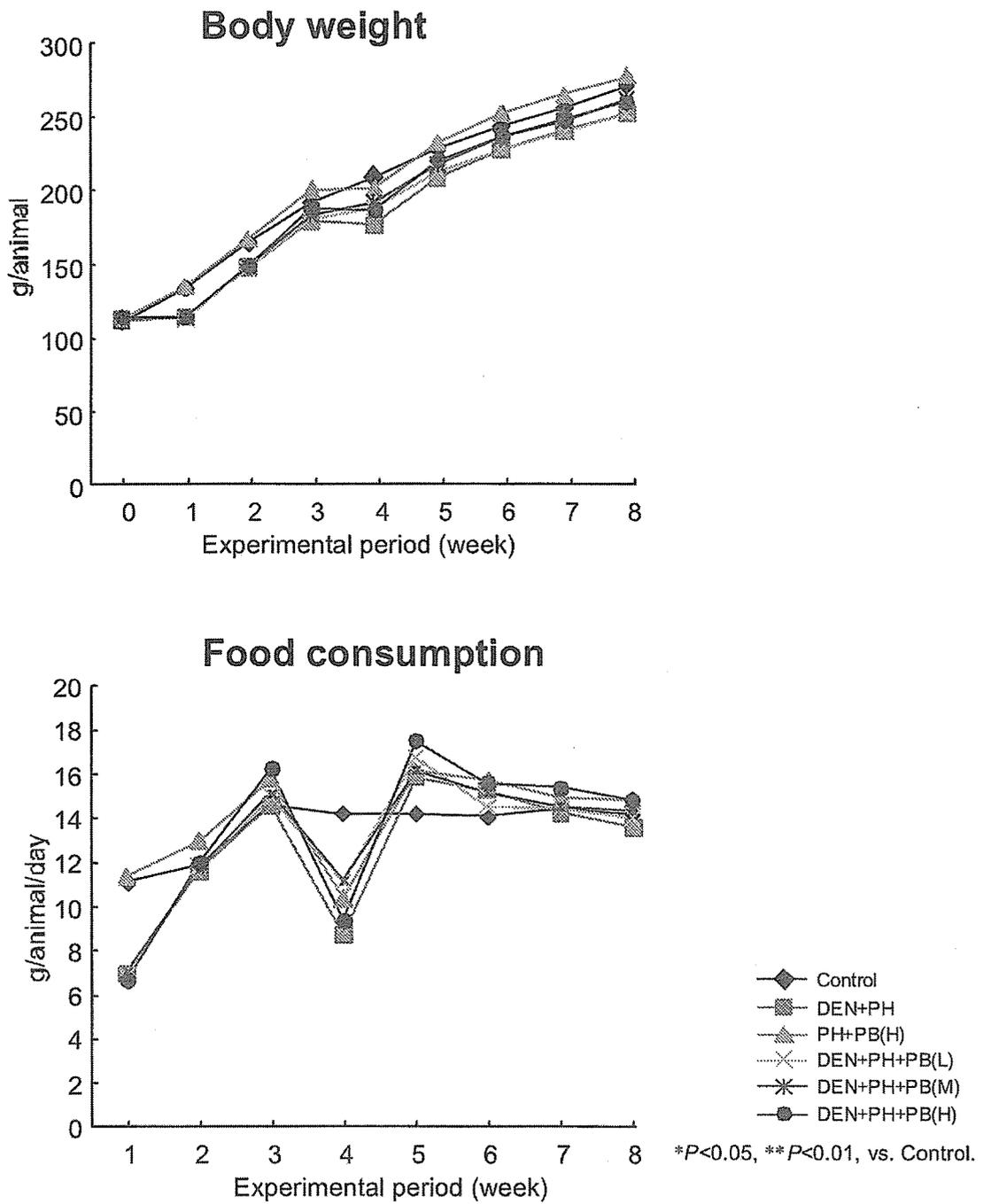
Down-regulated genes common to the carcinogenic process by 1000 ppm-SDM and 20,000 ppm-KA ( $\leq 0.5$ -fold,  $p < 0.05$ ).

Accession No.	Gene symbol	Gene title	1000 ppm-SDM	20,000 ppm-KA
NM031766.1	Cpz	Carboxypeptidase Z	0.41 *	0.37
NM031333.1	Cdh2	Cadherin 2	0.52	0.46
NM012703.1	Thrsp	Thyroid hormone responsive protein	0.49	0.22
BM386326	Mfap2	Microfibrillar-associated protein 2 (predicted)	0.46	0.40
AI176918	Fbln1	Fibulin 1 (predicted)	0.43	0.44
BI297183	Sox4	SRY-box containing gene 4 (predicted)	0.48	0.32
BE107282		Ischemia related factor-16	0.34	0.39
BF561454	Fgl2	Fibrinogen-like 2	0.47	0.33
AW914996		EST	0.47	0.48
AI072641		EST	0.48	0.30
BG381546		EST	0.33	0.46



F<sup>8</sup>

Common functions involved in early process of thyroid carcinogenesis related to hypothyroidism.



F 9

Growth curves and food consumptions of the tumor promotion study by PB in the rat liver using medium-term liver bioassay.

F 表 7

Final body and liver weights of rats treated with PB at the promotion stage in the medium-term liver bioassay.

Group	No. of effective animals	BW (g)	Liver (g)	Liver (g/100 g BW)
Control	12	267.1± 7.4	8.35±0.47	3.12± 0.13
DEN+PH	11	249.0±10.6**	7.36±0.59**	2.96± 0.27
PH+PB(H)	10	271.8±12.1 <sup>###</sup>	10.29±0.67 <sup>**</sup> , <sup>###</sup>	3.78± 0.17 <sup>**</sup> , <sup>###</sup>
DEN+PH+PB(L)	12	247.1±25.9*	7.51±1.08*	3.03± 0.17
DEN+PH+PB(M)	11	255.4±12.2	8.55±0.61 <sup>###</sup>	3.35± 0.10 <sup>#</sup>
DEN+PH+PB(H)	12	253.6± 7.7*	9.72±0.71 <sup>**</sup> , <sup>###</sup>	3.83± 0.24 <sup>**</sup> , <sup>###</sup>

\*  $P<0.05$ , \*\*  $P<0.01$ , vs. Control.

#  $P<0.05$ , <sup>###</sup>  $P<0.01$ , vs. DEN+PH.

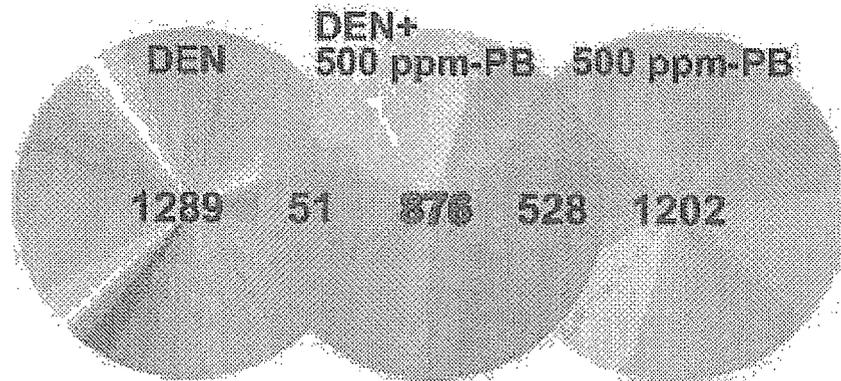
F 表 8

Final body and liver weights of rats treated with PB at the promotion stage in the medium-term liver bioassay.

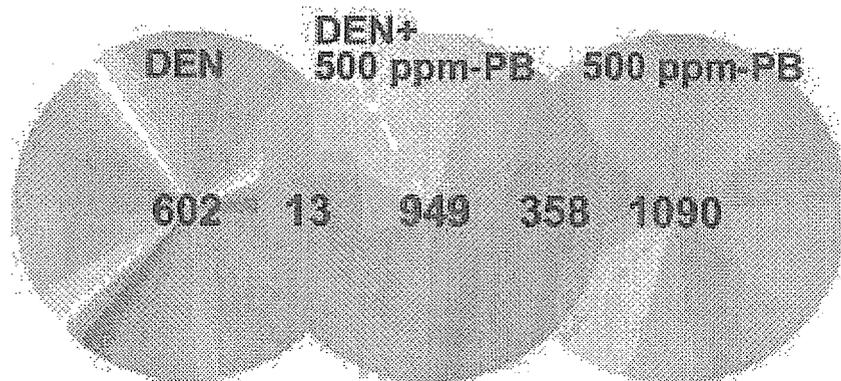
	DEN+PH	DEN+PB (ppm)		
		56	167	500
No. of effective animals	11	12	11	12
Numbers (No./cm <sup>2</sup> )	3.85±2.04	4.61±2.23	6.90±3.16 <sup>**</sup>	6.20±2.66 <sup>**</sup>
Area (mm <sup>2</sup> /cm <sup>2</sup> )	0.22±0.13	0.31±0.17	0.50±0.24 <sup>**</sup>	0.46±0.26 <sup>**</sup>

<sup>\*\*</sup>  $P<0.01$ , vs. DEN+PH.

**$\geq 2$ -fold**



**$\leq 0.5$ -fold**



**F** 10

Genes showing altered expression specific to the tumor promotion process in the medium-term liver bioassay using rats.

F表9

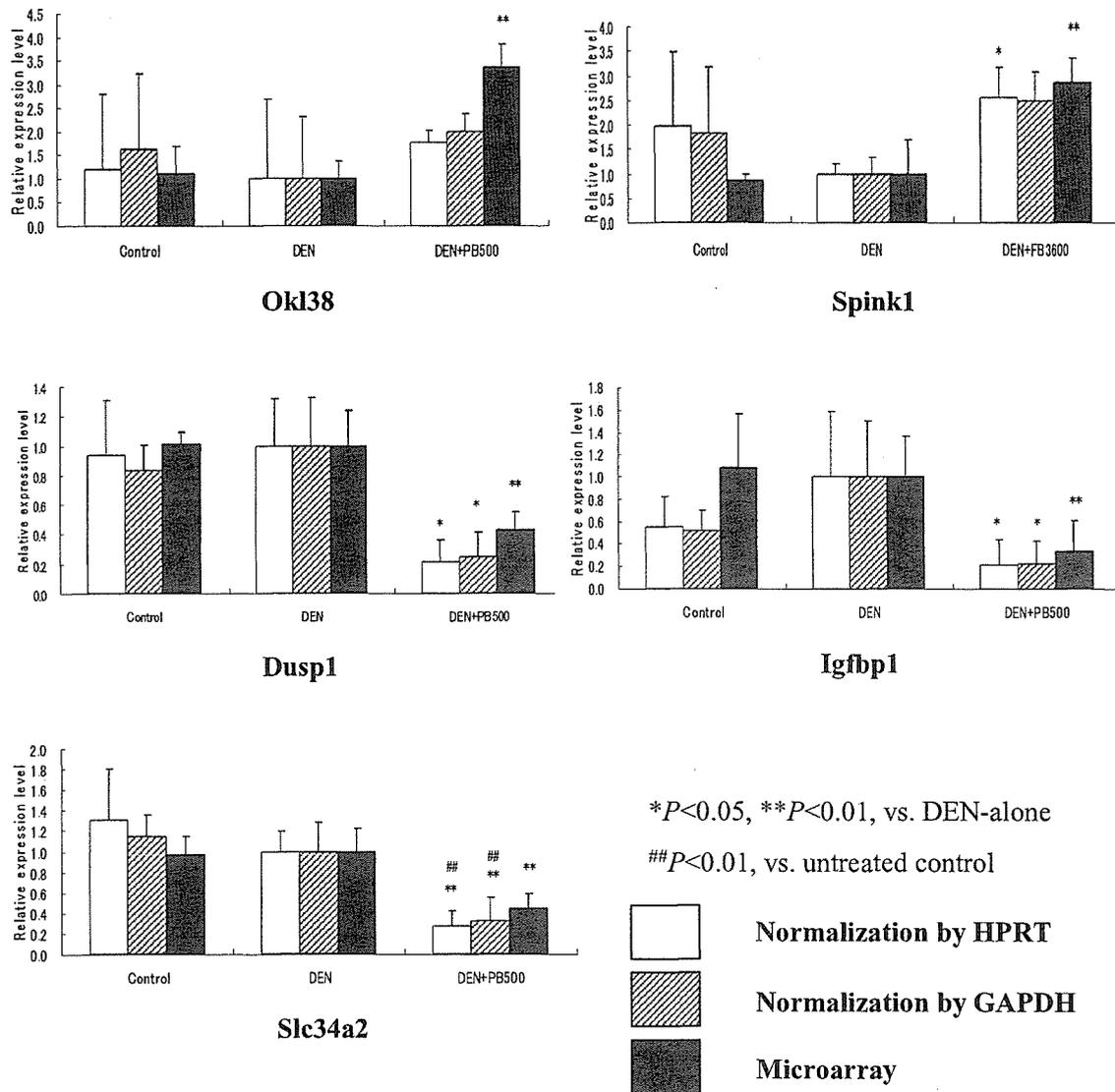
List of genes showing dose-related up-regulation by PB in the two-stage hepatocarcinogenesis model ( $\geq 2$ -fold,  $p < 0.05$ ).

Accession No.	Gene symbol	Gene title	DEN+PB (ppm)		
			56	167	500
<b>From 56 ppm</b>					
NM_031665.1	Stx6	Syntaxin 6	2.64	2.44	2.78
D31838.1	Wee1	Wee 1 tyrosine kinase	2.05	2.24	2.15
M35300.1	Spink1	Serine protease inhibitor, kazal type 1	2.35	2.14	2.70
AA943075		EST	2.87	2.85	2.92
M60388.1	Hemiferrin	Hemiferrin, transferrin-like protein	3.15	2.74	2.39
AW523578		Brain Ntab mRNA sequence	2.36	2.10	2.15
<b>From 167 ppm</b>					
AY081218.1	Ok138	Pregnancy-induced growth inhibitor	1.53	2.14	3.36
BG380736		EST, similar to PHD finger protein 20 (Mus musculus)	1.68	2.06	2.34
AI236937		EST, similar to anthrax toxin receptor 2 (Antxr2; Mus musculus)	1.91	2.19	2.33
AI511280		EST, similar to outer dense fiber of sperm tails 2-like (Odf2l; Mus musculus)	1.83	2.02	2.20
AW435169		EST, similar to tripartite motif protein 24 (Trim24; Mus musculus)	1.51	2.11	2.46
BI277442		EST	1.63	2.03	2.25

F表10

List of genes showing dose-related down-regulation by PB in the two-stage hepatocarcinogenesis model ( $\leq 0.5$ -fold,  $p < 0.05$ ).

Accession No.	Gene symbol	Gene title	DEN+PB (ppm)		
			56	167	500
<b>From 56 ppm</b>					
NM_053380	Slc34a2	Solute carrier family 34, member 2	0.39	0.32	0.45
BE110276		EST	0.38	0.23	0.16
AI111456		EST	0.21	0.43	0.47
AA924641		EST	0.39	0.47	0.46
BF392017		EST	0.31	0.10	0.37
<b>From 167 ppm</b>					
U02553.1	Dusp1	Dual specificity phosphatase	0.66	0.45	0.47
(BE1101108)			0.56	0.34	0.46
NM_013144	Igfbp1	Insulin-like growth factor binding protein 1	0.57	0.43	0.34
U39571.1		Phosphatidylinositol 4-kinase	0.70	0.45	0.46
BM384131		EST, AI115348 protein (predicted)	0.52	0.49	0.43
AI071617		EST	0.56	0.47	0.47
AI176317		EST	0.56	0.40	0.49
AW141081		EST	0.65	0.39	0.41
L08447.1	Cd3dz	CD3 antigen, zeta polypeptide	0.52	0.48	0.44
BI285940		EST	0.53	0.45	0.38
BI285616		Adipose differentiation-related protein	0.53	0.47	0.49
AI044898		EST	0.58	0.50	0.50
AA956038		EST	0.53	0.43	0.41
BF565241		EST	0.60	0.48	0.42
BE120455		EST	0.57	0.44	0.40
BF404845		EST	0.53	0.42	0.39
AI045966		EST	0.87	0.48	0.45



**F11**

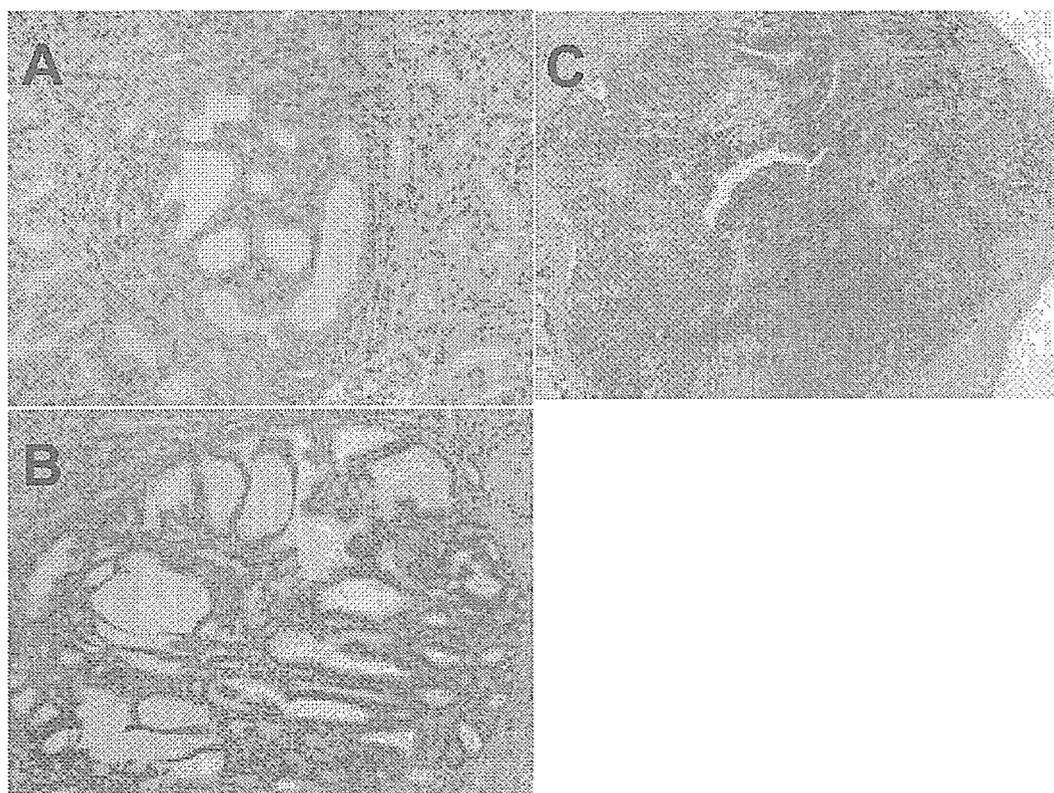
Validation of expression levels of representative genes selected in the microarray analysis by real-time RT-PCR.

F表11

Thyroid weights and multiplicity of proliferative lesions of F344 rats treated with kojic acid (KA) for 10 or 15 weeks.

Week	No. of animal examined	Thyroid weight		No. of the proliferative lesions	
		Absolute (g)	Relative (mg/100g bw)	FFCH+Adenoma	Carcinoma
10	10	0.17 ± 0.28	55.6 ± 8.7	15.9 ± 6.3	0
15	15	0.41 ± 0.05	124.1 ± 13.8	16.3 ± 5.2	1.3 ± 1.1

Abbreviation: FFCH, focal follicular cell hyperplasia.

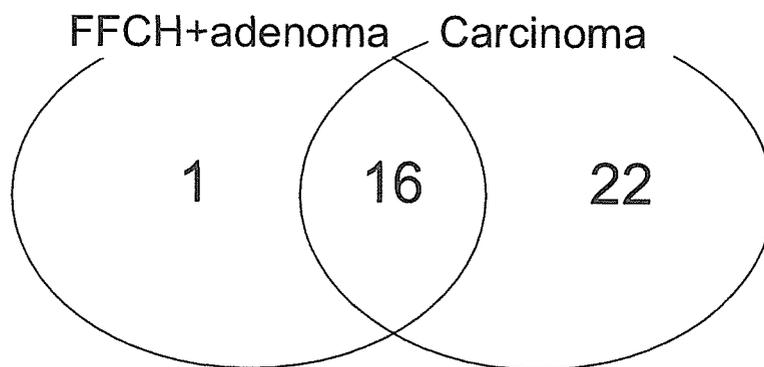


F图12.

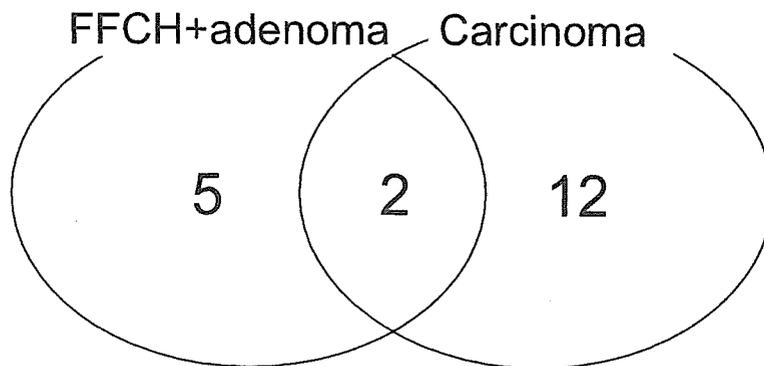
Representative histopathological lesions in the thyroid of the F344 rats treated with kojic acid for 10 or 15 weeks after DHPN-initiation.

A: focal follicular cell hyperplasia (FFCH), B: adenoma, C: carcinoma.

**$\geq 5$  fold,  $p < 0.05$**



**$\leq 0.2$  fold,  $p < 0.05$**



F 13

Number distribution of genes up- or down-regulated in FFCHs+adenomas and/or carcinomas.

F表12

List of genes up- or down-regulated common to the FFCHs+adenomas and carcinomas.

Accession No.	Gene title	Gene symbol	Non-tumor	FFCH+adenoma	Carcinoma
<b>15 fold, 16 genes</b>					
BI279202	similar to Ovostatin-2		1 ± 0.44	8.10 ± 9.86 <sup>a</sup>	11.95 ± 6.39
BM386415	NK-3 transcription factor, locus 1 (predicted)	Nkx3-1_predicted	1 ± 0.22	5.96 ± 2.11	6.40 ± 3.65
A1070944	Hypothetical gene supported by NM_022858	Foxq1	1 ± 0.35	7.30 ± 3.55	6.34 ± 0.58
BI286077	similar to LOC284861 protein		1 ± 0.48	4.73 ± 1.23	4.59 ± 0.96
BF417890	Antigen p97 (predicted)		1 ± 0.40	5.19 ± 1.41	5.09 ± 1.09
AA945643	Chitinase 3-like 1	Chi3l1	1 ± 0.42	8.82 ± 4.04	11.31 ± 3.18
AF202115.1	Ceruloplasmin	Cp	1 ± 0.36	4.98 ± 1.70	5.68 ± 0.91
(NM_012532.1)			(1 ± 0.41)	7.64 ± 4.27	9.73 ± 2.42)
(AF202115.1)			(1 ± 0.35)	5.67 ± 1.93	7.53 ± 1.28)
BE105713	EST		1 ± 0.27	6.21 ± 4.08	9.03 ± 2.22
NM_019225.1	Solute carrier family 1, member 3	Slc1a3	1 ± 0.37	10.83 ± 8.32	22.08 ± 7.53
BF415436	Protocadherin 9 (predicted)		1 ± 0.23	10.60 ± 10.39	18.97 ± 5.96
NM_024157.1	Complement factor 1	Cfi	1 ± 0.35	5.11 ± 1.60	6.90 ± 1.56
A1555053	Monooxygenase, DBH-like 1 (predicted)	Moxd1_predicted	1 ± 0.45	4.93 ± 0.77	6.21 ± 0.84
BF389287	EST		1 ± 0.37	6.94 ± 2.65	8.24 ± 0.11
A1072459	similar to Eph receptor A4		1 ± 0.19	6.70 ± 8.02	7.66 ± 2.21
L07316.1	Dipeptidase 1 (renal)	Dpep1	1 ± 0.27	9.15 ± 2.31	12.26 ± 1.40
NM_016994.1	Complement component 3	C3	1 ± 0.58	4.11 ± 2.28	9.33 ± 1.74
<b>50.2 fold, 2 genes</b>					
AW527736	similar to class alpha glutathione S-transferase		1 ± 0.30	0.16 ± 0.06	0.16 ± 0.02
NM_022407.2	Aldehyde dehydrogenase family 1, member A1	Aldh1A1	1 ± 0.15	0.19 ± 0.04	0.16 ± 0.01

a : x fold, vs non-tumor.

Abbreviation: FFCH, focal follicular cell hyperplasia.

F表13

List of genes up- or down-regulated only in FFCHs+adenomas.

Accession No.	Gene title	Gene symbol	Non-tumor	FFCH+Adenoma <sup>a</sup>	Carcinoma
<b>15 fold, 1 gene</b>					
NM_012589.1	Interleulin 6	Il-6	1 ± 0.51	5.31 ± 2.98 <sup>a</sup>	2.01 ± 0.77
<b>50.2 fold, 5 genes</b>					
AW526088	Plasticity related gene 1		1 ± 0.16	0.24 ± 0.16	0.26 ± 0.03
NM_021653.1	Deiodinase iodothyronine, type 1	Dio1	1 ± 0.06	0.19 ± 0.06	0.20 ± 0.02
M11597.1	Calcitonin/calcitonin-related polypeptide, alpha	Calca	1 ± 0.09	0.17 ± 0.09	0.54 ± 0.25
(NM_017338.1)			(1 ± 0.12)	0.17 ± 0.12	0.53 ± 0.13)
NM_053856.1	Secretogranin 3	Scg3	1 ± 0.04	0.12 ± 0.04	0.41 ± 0.16
NM_019278.1	Regulated endocrine-specific protein 18	Resp18	1 ± 0.06	0.15 ± 0.06	0.50 ± 0.13

a : x fold, vs non-tumor.

Abbreviation: FFCH, focal follicular cell hyperplasia.

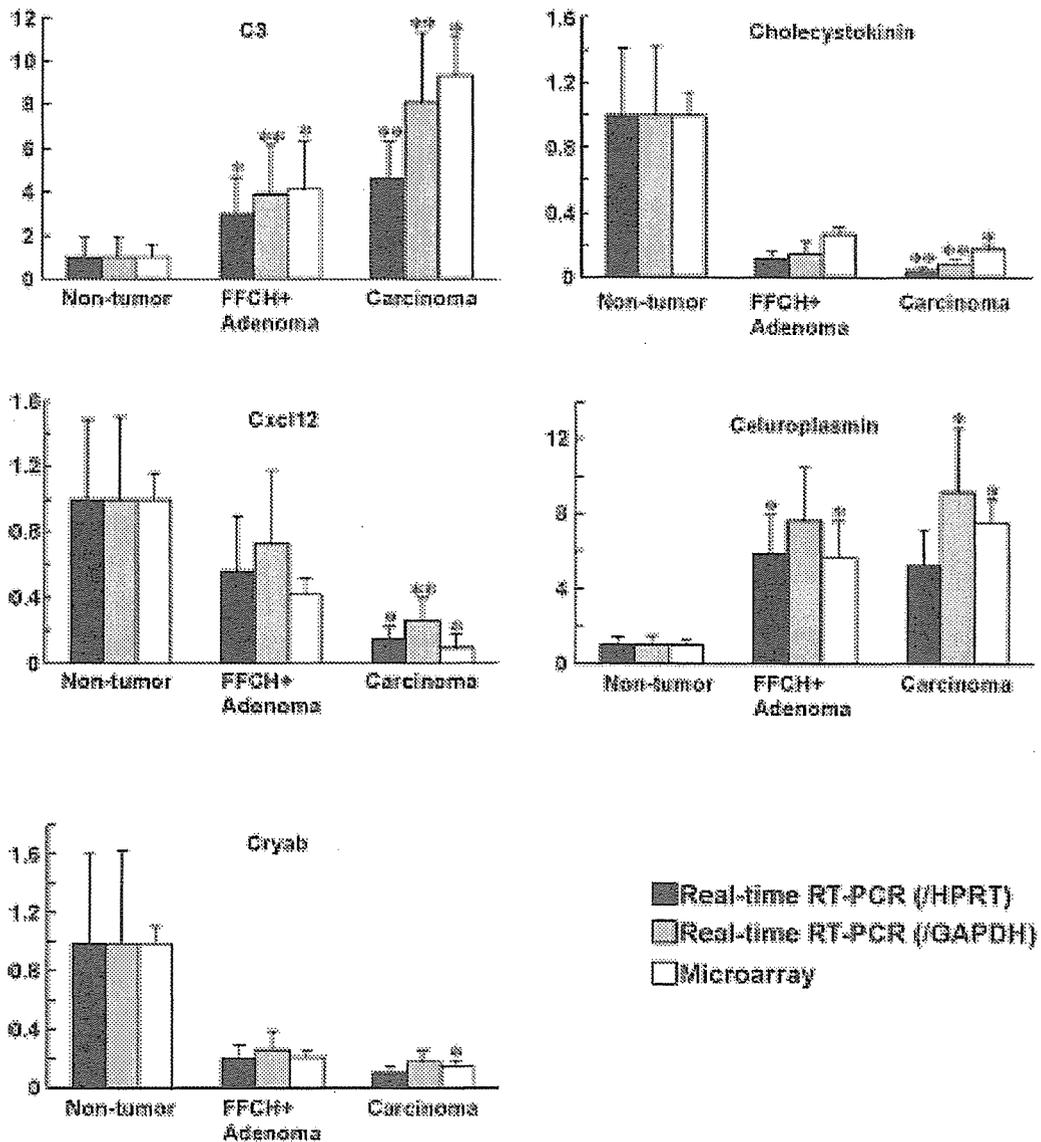
## F表14

## List of genes up-or down-regulated only in carcinomas.

Accession No.	Gene title	Gene symbol	Non-tumor	FFCH+Adenoma	Carcinoma
<b>1.5 fold, 22 genes</b>					
BM391164	Similar to RIKEN cDNA 1810059A23 Fibromodulin	Fmod	1 ± 0.18	3.70 ± 2.55 <sup>a</sup>	5.03 ± 3.51
AI179953	Gap junction membrane channel protein beta 2	Gjb2	1 ± 0.21	5.30 ± 4.53	5.06 ± 1.04
NM_012960.1	Gamma-glutamyl hydrolase	Ggh	1 ± 0.12	5.11 ± 5.18	5.96 ± 1.21
BI290053	Isopentenylidiphosphate delta isomerase	Idi1	1 ± 0.25	5.41 ± 2.88	5.65 ± 0.59
BF552084	EST		1 ± 0.15	4.15 ± 3.15	5.77 ± 1.03
BE106398	EST		1 ± 0.17	3.55 ± 2.10	5.48 ± 1.84
BI302694	Similar to cDNA sequence BC022692		1 ± 0.14	4.40 ± 3.62	5.77 ± 1.02
NM_017074.1	CTL target antigen	Cth	1 ± 0.20	4.20 ± 0.76	5.54 ± 1.23
AI101583	Transient receptor potential cation channel, subfamily V, member 6	Trpv6	1 ± 0.33	3.34 ± 1.18	4.62 ± 0.81
BI285347	Complement component 4a, Complement component 4, gene 2	C4a, C4-2	1 ± 0.40	2.70 ± 1.15	5.17 ± 0.90
NM_012522.1	Cystathionine beta synthase	Cbs	1 ± 0.32	3.04 ± 1.16	5.07 ± 1.03
BI284441	Collectin sub-family member 12	Colec12	1 ± 0.14	3.65 ± 1.39	6.25 ± 1.23
AF394783.1	Sulfotransferase family 1A, phenol-preferring, member 1	Slut1A1	1 ± 0.21	2.34 ± 0.72	4.44 ± 1.05
BG668993	Integrin beta 8 (predicted)		1 ± 0.22	2.17 ± 0.72	4.37 ± 1.38
AI045116	EST		1 ± 0.16	3.89 ± 1.35	6.38 ± 0.86
NM_053923.1	Phosphatidylinositol 3-kinase, C2 domain containing, gamma polypeptide	Pik3c2g	1 ± 0.19	4.29 ± 0.30	5.34 ± 0.91
AW142962	Prolactin receptor	Prlr	1 ± 0.13	3.04 ± 0.20	5.09 ± 1.18
BE107296	EST		1 ± 0.24	3.16 ± 1.00	5.89 ± 1.13
AI171987	EST		1 ± 0.23	4.02 ± 1.14	8.79 ± 0.62
AI412189	polypeptide)	Igha	1 ± 0.34	2.65 ± 0.71	6.63 ± 1.49
AI716125	Complement component 2	C2	1 ± 0.19	3.56 ± 0.46	4.62 ± 0.36
<b>0.2 fold, 12 genes</b>					
AA945955	Osteoglycin (predicted)	Ogn_predicted	1 ± 0.18	0.30 ± 0.15	0.20 ± 0.05
BG377887	Glial cell line derived neurotrophic factor family receptor alpha 3	Gfra3	1 ± 0.15	0.21 ± 0.03	0.19 ± 0.04
BF413643	similar to von Willebrand factor A domain containing 1 (predicted)		1 ± 0.13	0.40 ± 0.13	0.18 ± 0.06
BE107590	Similar to KIAA0605 gene product (predicted)		1 ± 0.26	0.45 ± 0.19	0.18 ± 0.07
NM_012935.1	Crystallin, alpha B	Cryab	1 ± 0.12	0.22 ± 0.04	0.15 ± 0.03
NM_053594.1	Protein tyrosine phosphatase, receptor type, R	Ptprr	1 ± 0.12	0.30 ± 0.05	0.20 ± 0.04
NM_012829.1	Cholecystokinin	Cck	1 ± 0.14	0.26 ± 0.05	0.17 ± 0.03
AI070324	EST		1 ± 0.20	0.32 ± 0.06	0.17 ± 0.02
AI501394	Peptidylprolyl isomerase B	Ppib	1 ± 0.34	0.27 ± 0.05	0.15 ± 0.04
BF389753	EST		1 ± 0.17	0.23 ± 0.04	0.14 ± 0.03
BI279587	EST		1 ± 0.14	0.42 ± 0.06	0.20 ± 0.02
BF283398	Chemokine (C-X-C motif) ligand 12	Cxcl12	1 ± 0.17	0.43 ± 0.10	0.10 ± 0.07

a : x fold, vs non-tumor.

Abbreviation: FFCH, focal follicular cell hyperplasia.



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Validation of expression data obtained from microarray by real-time RT-PCR.

\*  $P < 0.05$ , \*\*  $P < 0.01$ , vs. non-tumor portions.

Abbreviations: FFCH, focal follicular cell hyperplasia; C3, complement component 3; Cxcl12, chemokine (C-X-C motif) ligand 12; Cryab, crystallin, alpha B.