

68	NM_007542	Biglycan
69	NM_010941	NAD(P) dependent steroid dehydrogenase-like
70	NM_026128	RIKEN cDNA 4930403L05 gene
71	NM_021483	Peroxin 2
72	NM_020563	Interferon-stimulated protein (20 kDa)
73	NM_009421	Tnf receptor-associated factor 1
74	NM_009912	Chemokine (C-C motif) receptor 1
75	NM_010930	Nephroblastoma overexpressed gene
76	NM_009623	Adenylylate cyclase B
77	NM_008770	Claudin 11
78	NM_009808	Caspase 12
79	NM_023113	Aspartoacylase (aminoacylase) 2
80	NM_138305	Adenylylate cyclase 3
81	NM_008168	Glutamate receptor, ionotropic, kainate 5 (gamma 2)
82	NM_008357	Interleukin 15
83	NM_010942	Neuron specific gene family member 1
84	NM_011876	PTK9 protein tyrosine kinase 9-like (A6-related protein)
85	NM_010266	Guanine deaminase
86	NM_033321	Purinergic receptor P2X, ligand-gated ion channel, 5
87	NM_021789	Synbindin
88	NM_007478	ADP-ribosylation factor 3
89	NM_010715	Ligase I, DNA, ATP-dependent
90	NM_008960	Phosphatase and tensin homolog
91	NM_013606	Myxovirus (influenza virus) resistance 2
92	NM_030239	ATP-binding cassette, sub-family G (WHITE), member 3
93	NM_025285	Statmin-like 2
94	NM_020266	DnaJ (Hsp40) homolog, subfamily B, member 10
95	NM_010135	Enabled homolog (Drosophila)
96	NM_009449	Tubulin, alpha 7
97	NM_011638	Transferrin receptor (Tfr)
98	NM_011657	Tubby-like protein 3
99	NM_007498	Activating transcription factor 3
100	NM_020001	C-type (calcium dependent, carbohydrate recognition domain) lectin, superfamily member 10
101	NM_016874	Deformed epidermal autoregulatory factor 1 (Drosophila)
102	NM_025714	DNA segment, Chr 3, ERATO Doi 250, expressed
103	NM_011692	von Hippel-Lindau binding protein 1
104	NM_011592	Translocator of inner mitochondrial membrane 44
105	NM_009854	CD7 antigen
106	NM_007458	Adaptor protein complex AP-2, alpha 1 subunit
107	NM_026628	RIKEN cDNA 1700073K01 gene
108	NM_013662	Sema domain, transmembrane domain (TM), and cytoplasmic domain, (semaphorin) 6B
109	NM_018707	B-cell CLL/lymphoma 11A (zinc finger protein)
110	NM_020276	Nasal embryonic LHRH factor
111	NM_009220	Spermiogenesis gene
112	NM_023323	RIKEN cDNA 2810470K21 gene
113	NM_008532	Tumor-associated calcium signal transducer 1
114	NM_019676	Phospholipase C, delta
115	NM_020007	Muscleblind-like (Drosophila)
116	NM_006815	Polyomavirus enhancer activator 3
117	NM_053197	Sideroflexin 3
118	NM_008180	Glutathione synthetase

119	NM_008120	Gap junction membrane channel protein alpha 4
120	NM_025636	RIKEN cDNA 2310079N02 gene
121	NM_009609	Actin, gamma, cytoplasmic
122	NM_008942	Puromycin-sensitive aminopeptidase
123	NM_009148	SECB (S. cerevisiae)
124	NM_013683	Transporter 1, ATP-binding cassette, sub-family B (MDR/TAP)
125	NM_026662	RIKEN cDNA 2610101M19 gene
126	NM_080563	Ubiquitin conjugating enzyme 7 interacting protein 4
127	NM_009672	Acidic (leucine-rich) nuclear phosphoprotein 32 family, member A
128	NM_054046	Differentially expressed in FDCP 6
129	NM_010387	Histocompatibility 2, class II, locus Mb1
130	NM_008537	Alpha-methyl-CoA racemase
131	NM_031247	Immune associated nucleotide 4
132	NM_007891	E2F transcription factor 1
133	NM_008668	N-acetyl galactosaminidase, alpha
134	NM_025437	RIKEN cDNA 1500010B24 gene
135	NM_009360	Transcription factor A, mitochondrial
136	NM_007796	Cytotoxic T lymphocyte-associated protein 2 alpha
137	NM_008515	Leucine rich repeat (in FLI) interacting protein 1
138	NM_009178	Sialyltransferase 4C (beta-galactosidase alpha-2,3-sialyltransferase)
139	NM_006624	Muscle and microspikes RAS
140	NM_026603	RIKEN cDNA 1500003K04 gene
141	NM_025888	RIKEN cDNA 2410004N11 gene
142	NM_011398	Solute carrier family 25 (mitochondrial carrier, brain), member 14
143	NM_007572	Complement component 1, q subcomponent, alpha polypeptide
144	NM_013693	Tumor necrosis factor
145	NM_028288	Cullin 4B
146	NM_021877	Hairless
147	NM_008524	Lumican
148	NM_026139	RIKEN cDNA 3230401N03 gene
149	NM_010786	Transformed mouse 3T3 cell double minute 2
150	NM_009070	Ribonucleic acid binding protein S1
151	NM_010223	FK506 binding protein B (38 kDa)
152	NM_006639	Tissue inhibitor of metalloproteinase 4
153	NM_026108	RIKEN cDNA 1700121L12 gene
154	NM_010276	GTP binding protein (gene overexpressed in skeletal muscle)
155	NM_026290	RIKEN cDNA 493051111 gene
156	NM_007807	Cytochrome b-245, beta polypeptide
157	NM_011060	Peptidyl arginine deiminase, type III
158	NM_025887	RABSA, member RAS oncogene family
159	NM_011093	Paired-Ig-like receptor A6
160	NM_008085	Glyceraldehyde-3-phosphate dehydrogenase, spermatogenic
161	NM_009614	A disintegrin and metalloproteinase domain 15 (metargidin)
162	NM_133999	Expressed sequence A1325867
163	NM_008009	Fibroblast growth factor binding protein 1
164	NM_009670	Ankyrin 3, epithelial
165	NM_010476	Hydroxysteroid (17-beta) dehydrogenase 7
166	NM_007672	Cerebellar degeneration-related 2
167	NM_054048	RE1-silencing transcription factor (REST) co-repressor
168	NM_010716	Ligase III, DNA, ATP-dependent
169	NM_007640	CD102 antigen
170	NM_008144	G protein gamma 3 linked gene

171	NM_009830	Cyclin E2
172	NM_024479	cDNA sequence BC002286
173	NM_011767	Zinc finger RNA binding protein
174	NM_009680	Adaptor-related protein complex AP-3, beta 1 subunit
175	NM_007594	Calumenin
176	NM_138749	Plexin B2
177	NM_025724	RIKEN cDNA 4921510H08 gene
178	NM_008013	Fibrinogen-like protein 2
179	NM_009783	Calcium channel, voltage-dependent, T type, alpha 1G subunit
180	NM_015754	Retinoblastoma binding protein 9
181	NM_009381	Thyroid hormone responsive SPOT14 homolog (Rattus)
182	NM_011948	Mitogen activated protein kinase kinase 4
183	NM_008452	Kruppel-like factor 2 (lung)
184	NM_010211	Four and a half LIM domains 1
185	NM_008431	Potassium channel, subfamily K, member 4
186	NM_026096	RIKEN cDNA 1700054Q13 gene
187	NM_007477	ADP-ribosylation factor 2
188	NM_011982	Homer, neuronal immediate early gene, 1
189	NM_011970	Proteasome (prosome, macropain) subunit, beta type 2
190	NM_026176	Phosducin-like
191	NM_031870	MutS homolog 4 (E. coli)
192	NM_025281	Lyt1 antibody reactive clone
193	NM_054043	Musashi homolog 2 (Drosophila)
194	NM_015759	Fgd1 family, member 3
195	NM_013925	Adenosine deaminase, tRNA-specific 1
196	NM_007708	Suppressor of cytokine signaling 2
197	NM_013814	UDP-N-acetyl-alpha-D-galactosamine polypeptide N-acetyl-galactosaminyltransferase 1
198	NM_007590	Calmodulin 3
199	NM_011370	Selective hybridizing clone
200	NM_011971	Proteasome (prosome, macropain) subunit, beta type 3
201	NM_025812	High mobility group 20A
202	NM_010207	Fibroblast growth factor receptor 2
203	NM_054071	Fibroblast growth factor receptor-like 1
204	NM_009127	Stearoyl-Coenzyme A desaturase 1
205	NM_010208	Gardner-Rasheed feline sarcoma viral (Fgr) oncogene homolog
206	NM_008008	Fibroblast growth factor 7
207	NM_027343	RIKEN cDNA 2310066I10 gene
208	NM_008163	Growth factor receptor bound protein 2
209	NM_028756	RIKEN cDNA T010001J06 gene
210	NM_015825	SH3-binding domain glutamic acid-rich protein
211	NM_023556	Mevastatin kinase
212	NM_026174	Lysosomal apyrase-like 1
213	NM_029963	Mitochondrial ribosomal protein S5
214	NM_022885	Solute carrier family 30 (zinc transporter), member 5
215	NM_016877	CCR4-NOT transcription complex, subunit 4
216	NM_009619	A disintegrin and metalloprotease domain 3 (cyrilactin)
217	NM_019793	Transmembrane 4 superfamily member 8
218	NM_013911	F-box and leucine-rich repeat protein 12
219	NM_015823	Activin receptor interacting protein 1
220	NM_130454	RecQ protein-like 5
221	NM_025423	RIKEN cDNA 1110059E24 gene
222	NM_008154	G-protein coupled receptor 3

223	NM_011402	Solute carrier family 34 (sodium phosphate), member 2
224	NM_021318	Activator of CREM in testis
225	NM_021336	Small nuclear ribonucleoprotein polypeptide A'
226	NM_009186	Silica-induced gene 41
227	NM_016890	Dynactin 3
228	NM_009468	Dihydropyrimidinase-like 3
229	NM_009171	Serine hydroxymethyl transferase 1 (soluble)
230	NM_031199	Transforming growth factor alpha
231	NM_011942	Lysophospholipase 2
232	NM_011891	COP9 (constitutive photomorphogenic) homolog, subunit 3 (Arabidopsis thaliana)
233	NM_025430	RIKEN cDNA 1110066C01 gene
234	NM_011783	Anterior gradient 2 (Xenopus laevis)
235	NM_009424	Trif receptor-associated factor 6
236	NM_009150	Selenium binding protein, 1
237	NM_016712	Tropomodulin 4
238	NM_011421	Sphingomyelin phosphodiesterase 1, acid lysosomal
239	NM_008479	Lymphocyte-activation gene 3
240	NM_007455	Adaptor protein complex AP-1, gamma 2 subunit
241	NM_134024	Expressed sequence A1451582
242	NM_010012	Cytochrome P450, 8B1, sterol 12 alpha-hydroxylase
243	NM_009020	Recombination activating gene 2
244	NM_023912	N-terminal kinase-like
245	NM_026437	RIKEN cDNA 1810055E12 gene
246	NM_010308	Guanine nucleotide binding protein, alpha o
247	NM_009946	Complexin 2
248	NM_019581	GTP binding protein 2
249	NM_025421	RIKEN cDNA 1110039O14 gene
250	NM_010789	Myeloid ecotropic viral integration site 1

Fig 1-III-1-2-2 y=x 方向の移動距離の大きい蛍光強度 10000 以上の遺伝子

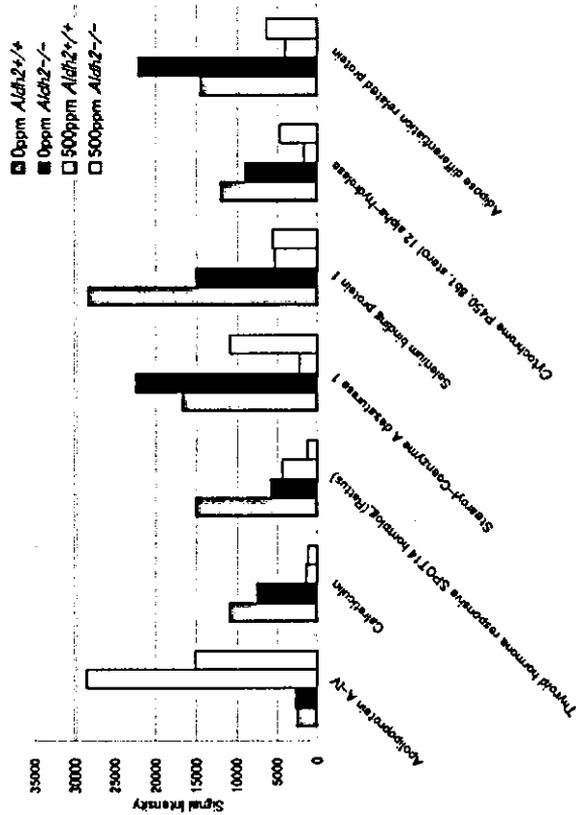


Fig 1-III-1-3-1 y=-x 方向の移動距離の大きく Spot 判定が全て陽性の上位 100 遺伝子

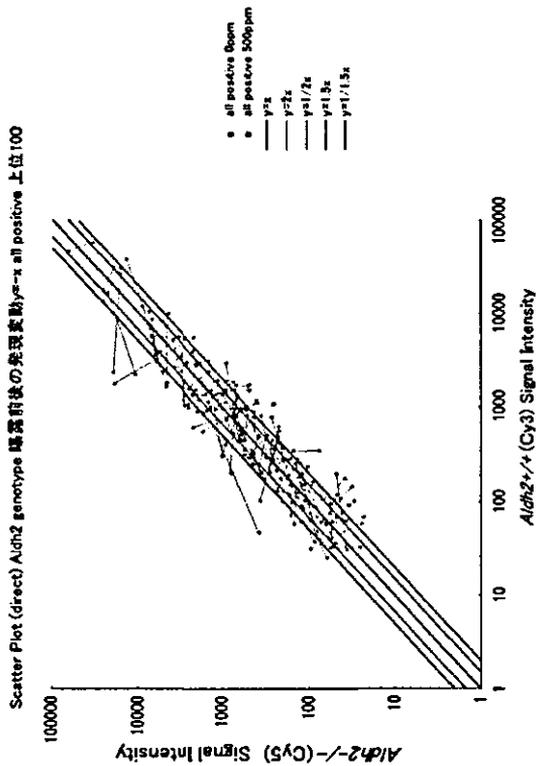


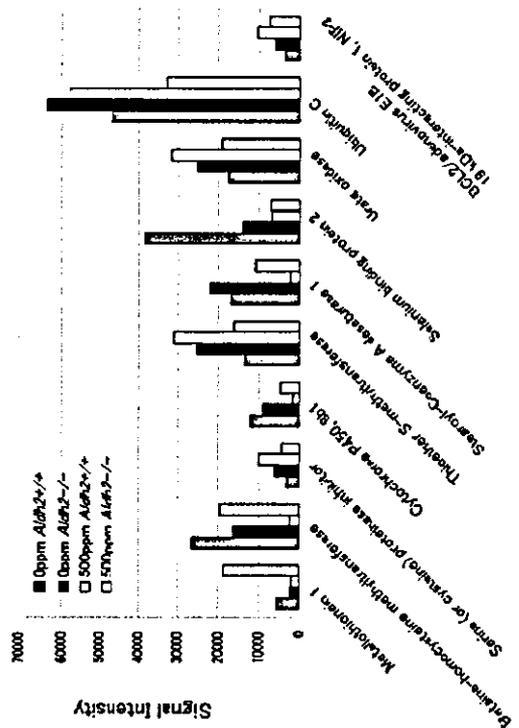
Table 1-III-1-3 y=-x 方向の移動距離の大きく Spot 判定が全て陽性の上位 100 遺伝子

Accession	Gene name
1	NM_013602 Metallothionein 1
2	NM_016668 Betaine-homocysteine methyltransferase
3	NM_016808 Ubiquitin specific protease 2
4	NM_008581 Melanoma antigen, 80 kDa
5	NM_026232 RIKEN cDNA 493343D23 gene
6	NM_009647 Adenylate kinase 4
7	NM_032002 Neuregulin 4
8	NM_010024 Dopachrome tautomerase
9	NM_011727 X-linked lymphocyte-regulated 3b
10	NM_009895 Cytokine inducible SH2-containing protein
11	NM_016974 D site albumin promoter binding protein
12	NM_010831 SNF1-like kinase
13	NM_009744 B-cell leukemia/lymphoma 6
14	NM_021301 Solute carrier family 15 (H+/peptide transporter), member 2
15	NM_010000 Cytochrome P450, 2B9, Phenobarbital inducible, type a
16	NM_011224 Muscle glycogen phosphorylase
17	NM_007913 Early growth response 1
18	NM_021524 pre-B-cell colony-enhancing factor
19	NM_007618 Serine (or cysteine) proteinase inhibitor, clade A, member 6
20	NM_008509 Lipoprotein lipase

21	NM_008230	Histidine decarboxylase
22	NM_009112	S100 calcium binding protein A10 (calpactin)
23	NM_011802	Caseinolytic protease X (E. coli)
24	NM_010012	Cytochrome P450_8b1, sterol 12 alpha-hydroxylase
25	NM_018887	Cytochrome P450_39a1 (pysterol 7alpha-hydroxylase)
26	NM_025436	Sterol-C4-methyl oxidase-like
27	NM_009349	Thioether S-methyltransferase
28	NM_007474	Aquaporin 8
29	NM_009127	Stearoyl-Coenzyme A desaturase 1
30	NM_011086	Period homolog 2 (Drosophila)
31	NM_023341	RIKEN cDNA 4632432J16 gene
32	NM_033374	Dedicator of cyto-kinesis 2
33	NM_011752	Zinc finger protein 259
34	NM_009628	Activity-dependent neuroprotective protein
35	NM_025341	RIKEN cDNA 0610041D24 gene
36	NM_023556	Mevastatate kinase
37	NM_008295	Hydroxysteroid dehydrogenase-5, delta-5--3-beta
38	NM_024228	Retinulon 4
39	NM_009984	Cystallin, alpha B
40	NM_013490	Choline kinase
41	NM_030706	Tripartite motif protein 2
42	NM_009368	Transforming growth factor beta 1 induced transcript 4
43	NM_007825	Cytochrome P450_7b1
44	NM_008804	Phosphodiesterase 9A
45	NM_019414	Selenium binding protein 2
46	NM_009117	Senum amyloid A 1
47	NM_009255	Serine (or cysteine) proteinase inhibitor, clade E, member 2
48	NM_011704	Vanin 1
49	NM_011314	Senum amyloid A 2
50	NM_023132	Renin binding protein
51	NM_011396	Solute carrier family 22 (organic cation transporter), member 5
52	NM_011391	Solute carrier family 16 (monocarboxylic acid transporters), member 7
53	NM_006669	N-acetyl galactosaminidase, alpha
54	NM_011281	RAR-related orphan receptor gamma
55	NM_018731	ATPase, H+/K+ transporting, alpha polypeptide
56	NM_008710	Nicotinamide nucleotide transhydrogenase
57	NM_011868	Peroxisomal delta3, delta2-enoyl-Coenzyme A isomerase
58	NM_008330	Interferon gamma inducible protein, 47 kDa
59	NM_007444	S-adenosylmethionine decarboxylase 2
60	NM_008543	MAD homolog 7 (Drosophila)
61	NM_007865	Delta-like 1 (Drosophila)
62	NM_020594	Fetal liver zinc finger 1
63	NM_009721	ATPase, Na+/K+ transporting, beta 1 polypeptide
64	NM_016861	PDZ and LIM domain 1 (elfin)
65	NM_007933	Enolase 3, beta muscle
66	NM_017373	Nuclear factor, interleukin 3, regulated
67	NM_010324	Glutamate oxaloacetate transaminase 1, soluble
68	NM_007796	Cytotoxic T lymphocyte-associated protein 2 alpha
69	NM_026180	ATP-binding cassette, sub-family G (WHITE), member 8
70	NM_015747	Solute carrier family 20, member 1
71	NM_009114	S100 calcium binding protein A9 (calgranulin B)
72	NM_031881	Neural precursor cell expressed, developmentally down-regulated

		gene 4-like
73	NM_011756	Zinc finger protein 36
74	NM_009474	Urate oxidase
75	NM_008847	Phosphatidylinositol-4-phosphate 5-kinase, type 1 beta
76	NM_007414	ADP-ribosylarginine hydrolase
77	NM_019867	Neuronal guanine nucleotide exchange factor
78	NM_019639	Ubiquitin C
79	NM_023502	RIKEN cDNA 2610036A20 gene
80	NM_008181	Glutathione S-transferase, alpha 1 (Ya)
81	NM_026529	RIKEN cDNA 2700062C07 gene
82	NM_028610	Ras homolog gene family, member E
83	NM_009121	Spermidine/spermine N1-acetyl transferase
84	NM_020575	Axotrophin
85	NM_025572	RIKEN cDNA 2610528J11 gene
86	NM_010211	Four and a half LIM domains 1
87	NM_008898	P450 (cytochrome) oxidoreductase
88	NM_026731	Protein phosphatase 1, regulatory (inhibitor) subunit 14A
89	NM_019975	2-hydroxyphytanoyl-CoA lyase
90	NM_011068	Peroxisomal biogenesis factor 11a
91	NM_009665	S-adenosylmethionine decarboxylase 1
92	NM_023719	Thioredoxin interacting protein
93	NM_007437	Aldehyde dehydrogenase family 3, subfamily A2
94	NM_011584	Thyroid hormone receptor alpha
95	NM_009760	BCL2adenovirus E1B 19 kDa-interacting protein 1, NIP3
96	NM_009107	Retinoid X receptor gamma
97	NM_026211	RIKEN cDNA 2400003B06 gene
98	NM_016888	UDP-GlcNAc:betaGal betae-1,3-N-acetylglucosaminyltransferase 1
99	NM_030687	Solute carrier family 21 (organic anion transporter), member 5
100	NM_010550	Interleukin 11 receptor, alpha chain 2

Fig1-III-1-3-2 y=x 方向の移動距離の大きい蛍光強度 10000 以上の遺伝子



1-III-2 解析法 2 染色体毎の表示

Fig1-III-2-1 第 5 番染色体

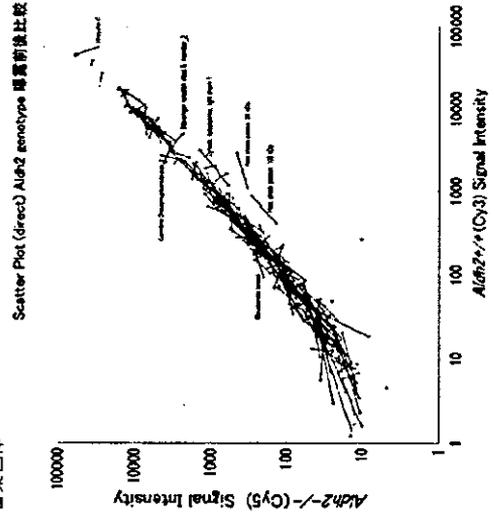


Fig1-III-2-2 X 染色体

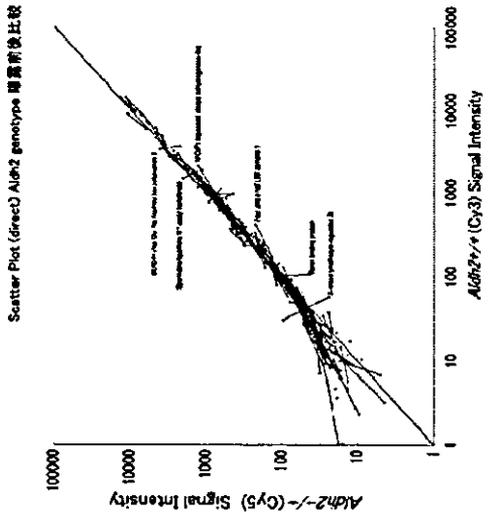


Fig1-III-2-3 Y 染色体

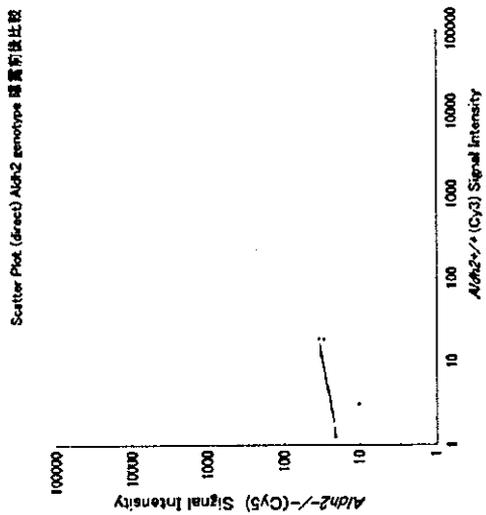


Fig1-III-2-5 第2番染色体

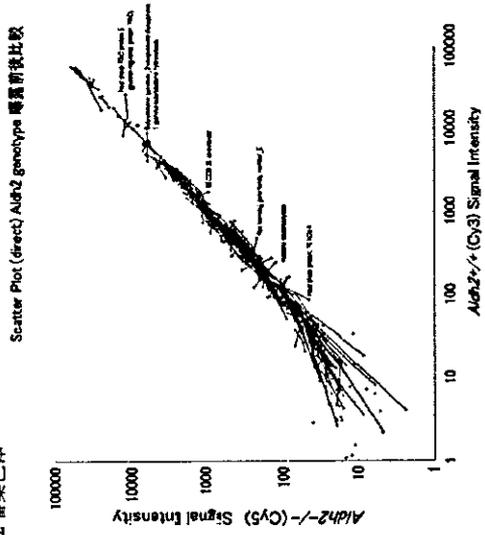


Fig1-III-2-4 第1番染色体

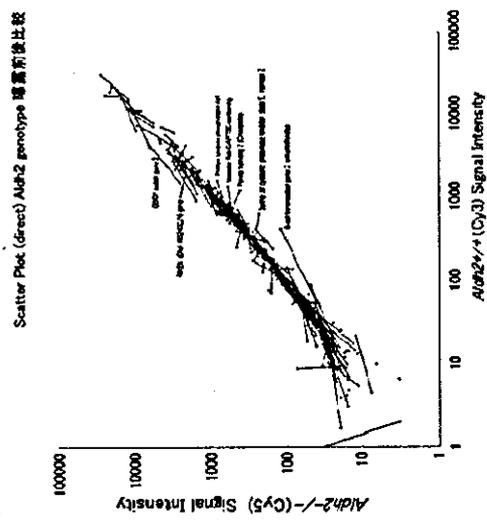


Fig1-III-2-6 第3番染色体

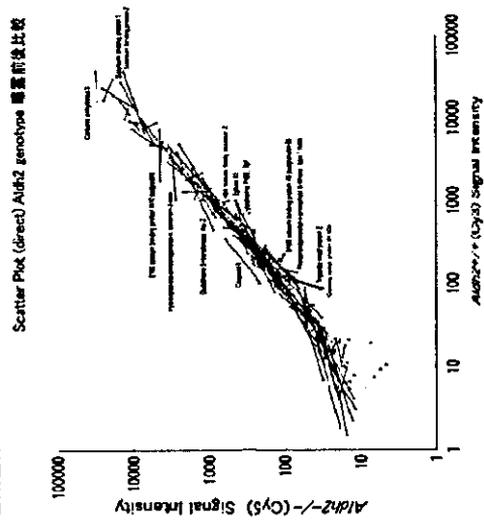


Fig1-III-2-7 第 4 番染色体

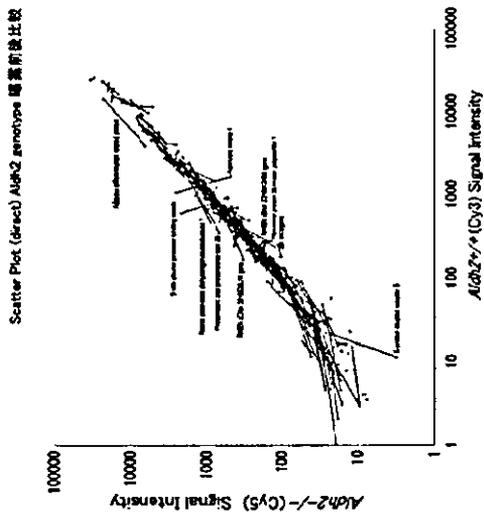


Fig1-III-2-9 第 7 番染色体

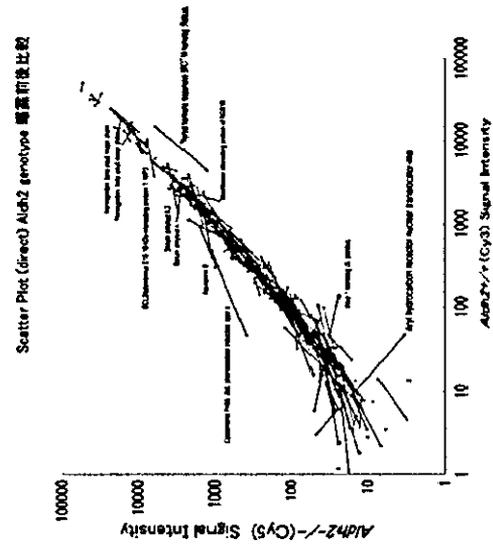


Fig1-III-2-8 第 6 番染色体

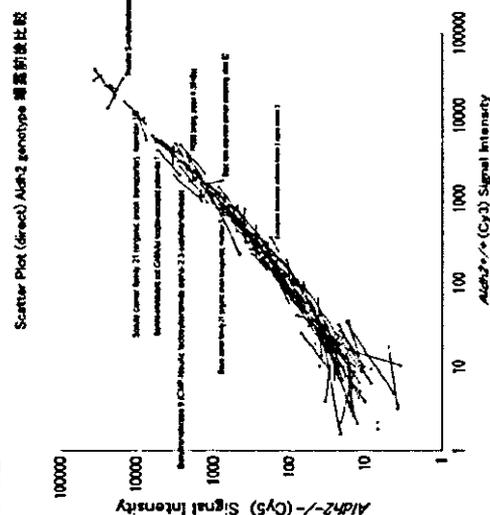


Fig1-III-2-10 第 8 番染色体

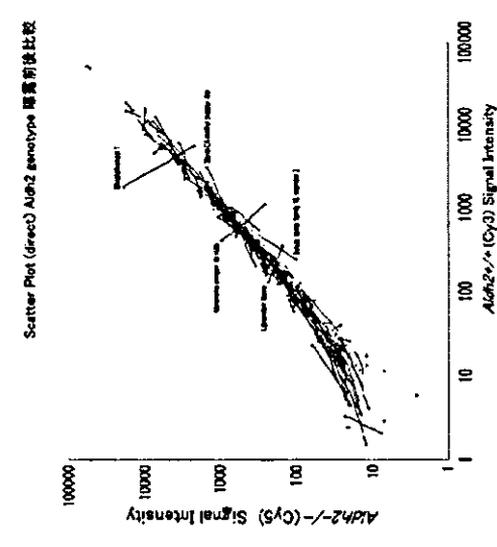


Fig1-III-2-11 第9番染色体

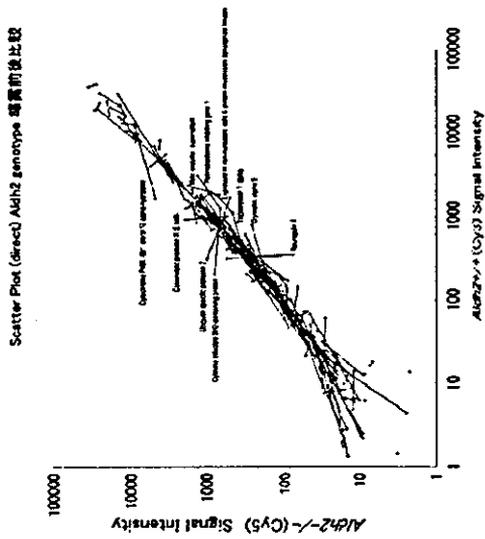


Fig1-III-2-13 第11番染色体

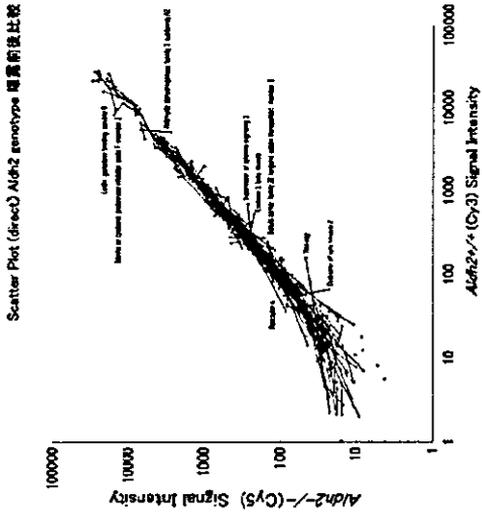


Fig1-III-2-12 第10番染色体

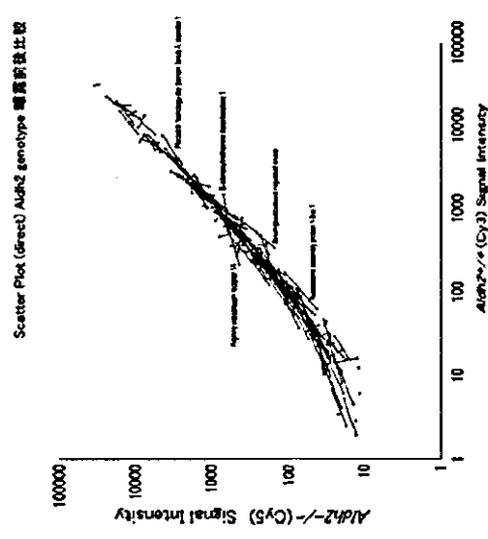


Fig1-III-2-14 第12番染色体

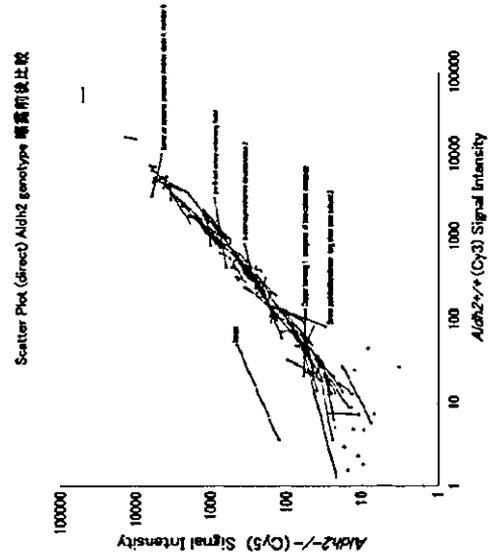


Fig1-III-2-15 第13 番染色体

Scatter Plot (direct) Auh2 genotype 幅直前後比較

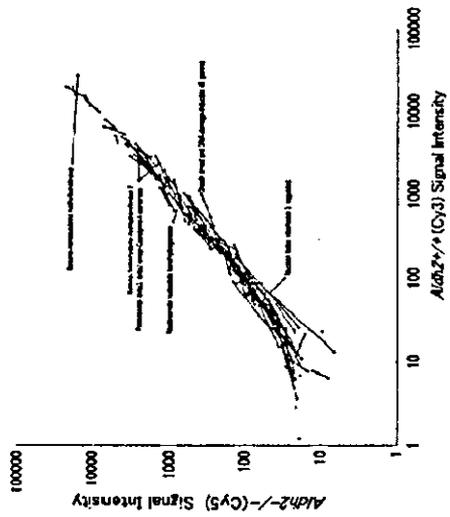


Fig1-III-2-17 第15 番染色体

Scatter Plot (direct) Auh2 genotype 幅直前後比較

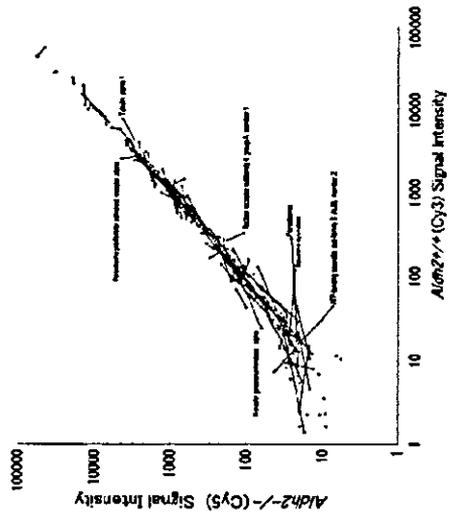


Fig1-III-2-16 第14 番染色体

Scatter Plot (direct) Auh2 genotype 幅直前後比較

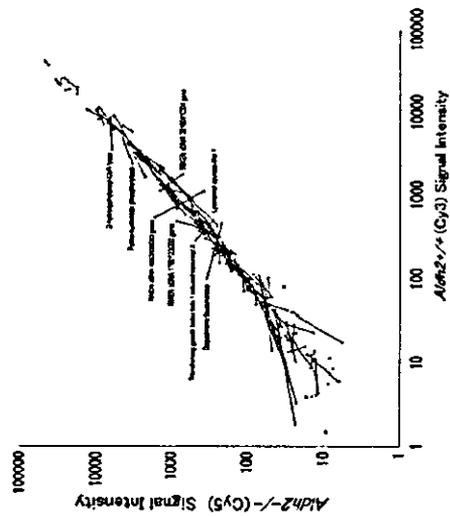


Fig1-III-2-18 第16 番染色体

Scatter Plot (direct) Auh2 genotype 幅直前後比較

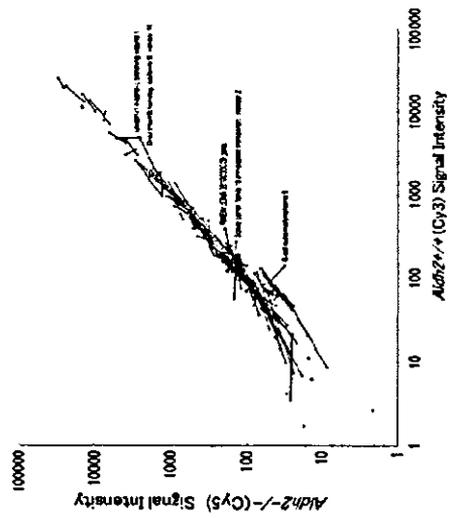


Fig1-III-2-19 第 17 番染色体

Scatter Plot (direct) *Alh2* genotype 曝露前後比較

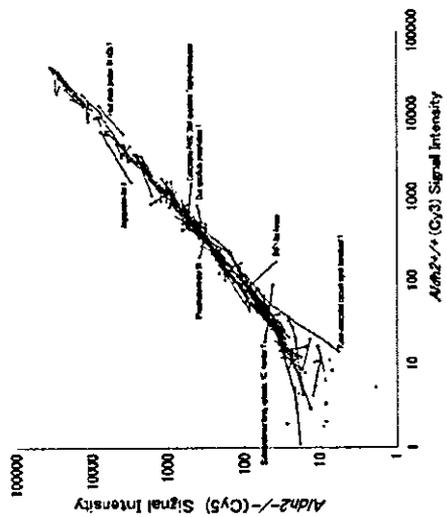


Fig1-III-2-21 第 19 番染色体

Scatter Plot (direct) *Alh2* genotype 曝露前後比較

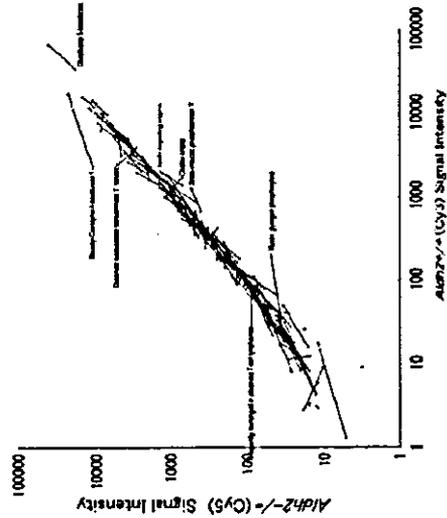
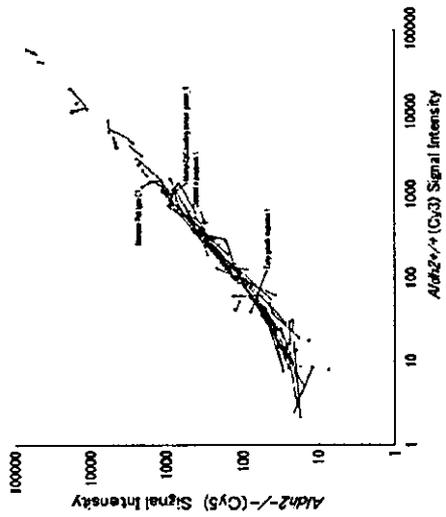


Fig1-III-2-20 第 18 番染色体

Scatter Plot (direct) *Alh2* genotype 曝露前後比較



解析法 3 機能別の表示
Fig1-III-3-1 Apoptosis に関与する遺伝子

Scatter Plot (direct) Aldh2 genotype 曝露前後比較

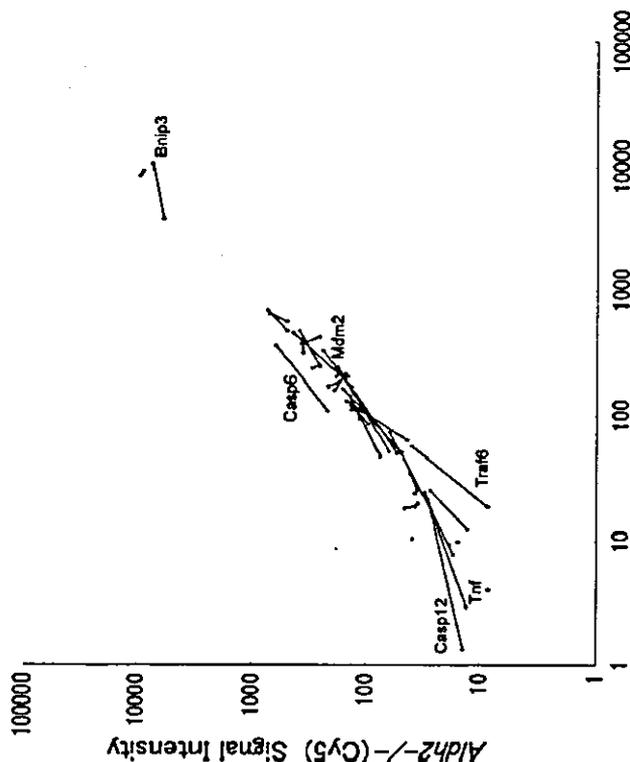


Table 1-III-3-1 Apoptosis に関与する遺伝子

Gene Bank	Description	Gene Name
NM_007499	Ataxia telangiectasia mutated homolog (human)	Atm
NM_007465	Baculoviral IAP repeat-containing 2	Birc2
NM_007464	Baculoviral IAP repeat-containing 3	Birc3
NM_009740	B-cell leukemia/lymphoma 10	Bcl10
NM_009741	B-cell leukemia/lymphoma 2	Bcl2
NM_009760	BCL2/adenovirus E1B 19kDa-interacting protein 1, NIP3	Bnip3
NM_007527	Bcl2-associated X protein	Bax
NM_009743	Bcl2-like 1	Bcl2l1
NM_009950	CASP2 and RIPK1 domain containing adaptor with death domain	Cradd
NM_009807	Caspase 1	Casp1
NM_009808	Caspase 12	Casp12
NM_007610	Caspase 2	Casp2
NM_009810	Caspase 3, apoptosis related cysteine protease	Casp3

NM_009811	Caspase 6	Casp6
NM_007611	Caspase 7	Casp7
NM_011897	Caspase 8 associated protein 2	Casp8ap2
NM_015733	Caspase 9	Casp9
NM_009894	Cell death-inducing DNA fragmentation factor, alpha subunit-like effector B	Cic1eb
NM_007859	DNA fragmentation factor, beta subunit	Dffb
NM_008316	Hus1 homolog (S. pombe)	Hus1
NM_010736	Lymphotoxin B receptor	Ltbr
NM_008662	Myeloid cell leukemia sequence 1	Mcl1
NM_009068	Receptor (TNFRSF)-interacting serine-threonine kinase 1	Ripk1
NM_009423	Tnf receptor associated factor 4	Traf4
NM_009421	Tnf receptor-associated factor 1	Traf1
NM_011632	Tnf receptor-associated factor 3	Traf3
NM_009424	Tnf receptor-associated factor 6	Traf6
NM_011529	TRAF family member-associated NH-kappa B activator	Tank
NM_011640	Transformation related protein 53	Trp53
NM_010786	Transformed mouse 3T3 cell double minute 2	Mdm2
NM_013693	Tumor necrosis factor	Tnf
NM_011613	Tumor necrosis factor (ligand) superfamily, member 11	Tnfrsf11
NM_023517	Tumor necrosis factor (ligand) superfamily, member 13	Tnfrsf13
NM_009403	Tumor necrosis factor (ligand) superfamily, member 8	Tnfrsf8
NM_008764	Tumor necrosis factor receptor superfamily, member 11b (osteoprotegerin)	Tnfrsf11b
NM_011659	Tumor necrosis factor receptor superfamily, member 4	Tnfrsf4

Fig 1-III-3-2 DNA Damage Signaling に関係する遺伝子

Scatter Plot (direct) Aldh2 genotype 曝露前後比較

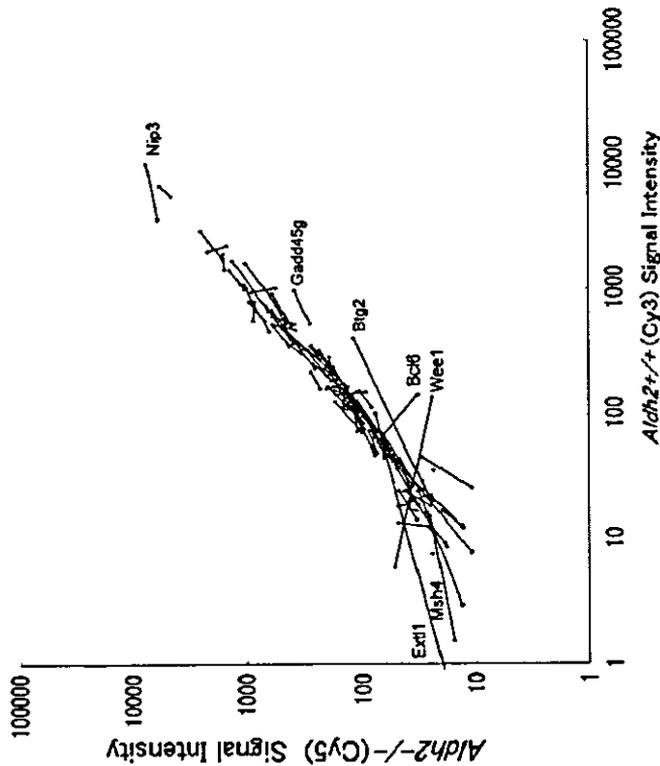


Table 1-III-3-2 DNA Damage Signaling に関係する遺伝子

Gene Bank Accession	Description	Gene Name
NM_009530	Alpha thalassemia/mental retardation syndrome X-linked homolog (human)	Atrx
NM_009887	Aprurinic/apyrimidinic endonuclease 1	Ref-1
NM_007499	Ataxia telangiectasia mutated homolog (human)	Atm
NM_007464	Baculoviral IAP repeat-containing 3	Iap1
NM_007465	Baculoviral IAP repeat-containing 2	Iap2
NM_009744	B-cell leukemia/lymphoma 6	Bcl6
NM_007570	B-cell translocation gene 2, anti-proliferative	Blg2
NM_016787	BCL2/adenovirus E1B 19kDa-interacting protein 1, NIP2	Nip2
NM_009760	BCL2/adenovirus E1B 19kDa-interacting protein 1, NIP3	Nip3
NM_007527	Bcl2-associated X protein	Bax
NM_009765	Breast cancer 2	Brcac2
NM_007660	Cell division cycle 2 homolog (S. pombe)-like 2	Cdc2l2
NM_023223	Cell division cycle 20 homolog (S. cerevisiae)	Cdc20

NM_023117	Cell division cycle 25 homolog B (S. cerevisiae)	Cdc25B
NM_016742	Cell division cycle 37 homolog (S. cerevisiae)	Cdc37
NM_023950	Cell division cycle 37 homolog (S. cerevisiae)-like	Cdc37l1
NM_009861	Cell division cycle 42 homolog (S. cerevisiae)	Cdc42
NM_009862	Cell division cycle 45 homolog (S. cerevisiae)-like	Cdc45l1
NM_009863	Cell division cycle 71 homolog (S. cerevisiae)-like 1	Cdc71l1
NM_009870	Cyclin-dependent kinase 4	Cdk4
NM_009871	Cyclin-dependent kinase 5, regulatory subunit (p35)	Cdk5r1
NM_009875	Cyclin-dependent kinase inhibitor 1B (P27)	Cdkn1b
NM_009876	Cyclin-dependent kinase inhibitor 1C (P37)	Cdkn1c
NM_009878	Cyclin-dependent kinase inhibitor 2D (p19, inhibits CDK4)	Cdkn2a
NM_016912	Cyclin-dependent kinase-like 2 (CDC2-related kinase)	Cdkl2
NM_015735	Damage specific DNA binding protein 1 (127 kDa)	Ddb1
NM_007837	DNA-damage inducible transcript 3	Gadd153
NM_007948	Excision repair cross-complementing rodent repair deficiency, complementation group 1	Ercrc1
NM_015769	Excision repair cross-complementing rodent repair deficiency, complementation group 4	Xpr
NM_011729	Excision repair cross-complementing rodent repair deficiency, complementation group 5	Xpg
NM_010162	Exostoses (multiple) 1	Exf1
NM_010163	Exostoses (multiple) 2	Exf2
NM_019578	Exostoses (multiple)-like 1	Exf1l
NM_021388	Exostoses (multiple)-like 2	Exf2l
NM_007999	Flap structure specific endonuclease 1	Fen-1
NM_010446	Forkhead box A2	Foxa2
NM_008260	Forkhead box A3	Foxa3
NM_013519	Forkhead box C2	Foxc2
NM_010428	Forkhead box F1a	Foxf1a
NM_008241	Forkhead box G1	Foxg1
NM_008021	Forkhead box M1	Foxm1
NM_053202	Forkhead box P1	Foxp1
NM_007836	Growth arrest and DNA-damage-inducible 45 alpha	Gadd45
NM_008855	Growth arrest and DNA-damage-inducible 45 beta	Gadd45b
NM_011817	Growth arrest and DNA-damage-inducible 45 gamma	Gadd45g
NM_008088	Growth arrest specific 1	Gas1
NM_016855	Growth arrest specific 11	Gas11
NM_008087	Growth arrest specific 2	Gas2
NM_013525	Growth arrest specific 5	Gas5
NM_019521	Growth arrest specific 6	Gas6
NM_008088	Growth arrest specific 7	Gas7
NM_010436	H2A histone family, member X	H2afx
NM_016750	H2A histone family, member Z	H2afz
NM_008316	Hus1 homolog (S. pombe)	Hus1
NM_010823	Kinesin family member 17	Kif17
NM_008440	Kinesin family member 1A	Kif1a
NM_008442	Kinesin family member 2	Kif2
NM_016705	Kinesin family member 21A	Kif21a
NM_008443	Kinesin family member 3A	Kif3a

NM_008444	Kinesin family member 3B	Kif3b
NM_008445	Kinesin family member 3C	Kif3c
NM_008447	Kinesin family member 5A	Kif5a
NM_008448	Kinesin family member 5B	Kif5b
NM_010828	Kinesin family member 8	Kif9
NM_010830	Kinesin family member C2	kifc2
NM_011175	Legumain	Lgmn
NM_010715	Ligase I DNA, ATP-dependent	Lig1
NM_010716	Ligase III DNA, ATP-dependent	Lig3
NM_008628	MusS homolog 2 (E. coli)	Msh2
NM_010829	MusS homolog 3 (E. coli)	Msh3
NM_031870	MusS homolog 4 (E. coli)	Msh4
NM_010830	MusS homolog 6 (E. coli)	Msh6
NM_013752	Nibrin	Nbs1
NM_011045	Proliferating cell nuclear antigen	Pcna
NM_023371	Protein (peptidyl-prolyl cis/trans isomerase) NIMA-interacting 1	Pin1
NM_018910	Protein phosphatase 1D magnesium-dependent, delta isoform	Wip1
NM_008989	Purine rich element binding protein A	Pura
NM_011221	Purine rich element binding protein B	Purb
NM_011232	RAD1 homolog (S. pombe)	Rad1
NM_011233	RAD17 homolog (S. pombe)	Rad17
NM_009009	RAD21 homolog (S. pombe)	Rad21
NM_009010	RAD23a homolog (S. cerevisiae)	Rad23a
NM_053289	Rad51 homolog c (S. cerevisiae)	Rad51c
NM_011235	Rad51-like 3 (S. cerevisiae)	Rad52l3
NM_011236	RAD52 homolog (S. cerevisiae)	Rad52
NM_026653	Replication protein A1 (70 kDa)	Rpa1
NM_011284	Replication protein A2	Rpa2
NM_009103	Ribonucleotide reductase M1	Rrm1
NM_011637	Threose prime repair exonuclease 1	Trex1
NM_011640	Transformation related protein 53	p53
NM_010785	Transformed mouse 3T3 cell double minute 1	Mdm1
NM_010786	Transformed mouse 3T3 cell double minute 2	Mdm2
NM_013893	Tumor necrosis factor	Tnfa
NM_011613	Tumor necrosis factor (ligand) superfamily, member 11	Tnfrsf11
NM_023517	Tumor necrosis factor (ligand) superfamily, member 13	Tnfrsf13
NM_009403	Tumor necrosis factor (ligand) superfamily, member 8	Tnfrsf8
NM_008764	Tumor necrosis factor receptor superfamily, member 11b (osteoprotegerin)	Tnfrsf11b
NM_026075	Tumor necrosis factor receptor superfamily, member 13c	Tnfrsf13c
NM_011608	Tumor necrosis factor receptor superfamily, member 17	Tnfrsf17
NM_013868	Tumor necrosis factor receptor superfamily, member 19	Tnfrsf19
NM_052975	Tumor necrosis factor receptor superfamily, member 21	Tnfrsf21
NM_011659	Tumor necrosis factor receptor superfamily, member 4	Ox40
NM_009516	Wee 1 homolog (S. pombe)	Wee1
NM_011728	Xeroderma pigmentosum, complementation group A	Xpa
NM_009531	Xeroderma pigmentosum, complementation group C	Xpc

Fig 1-III-3-3 Cell Cycle に関与する遺伝子

Scatter Plot (direct) *Aldh2* genotype 曝露前後比較

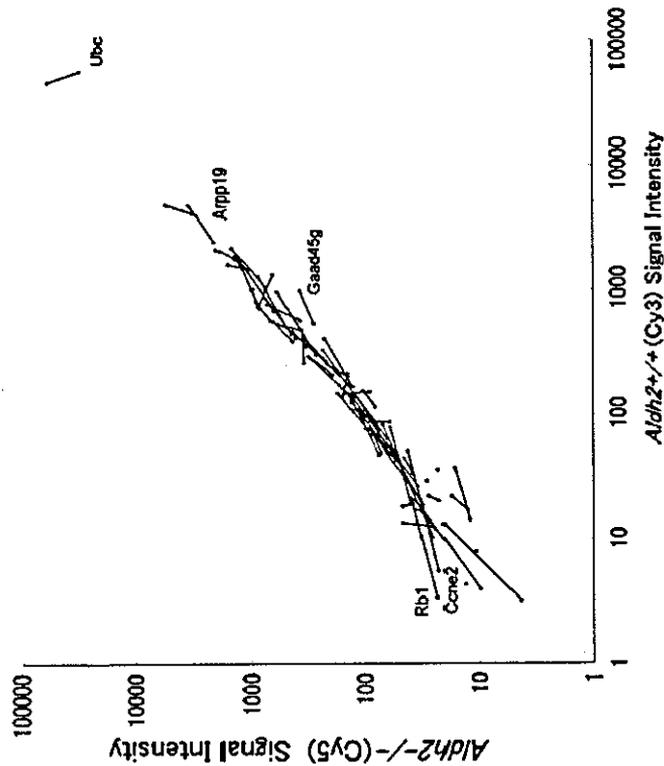


Table 1-III-3-3 Cell Cycle に関与する遺伝子

Gene Bank Accession	Description	Gene Name
NM_007499	Ataxia telangiectasia mutated homolog (human)	Atm
NM_009741	B-cell leukemia/lymphoma 2	Bcl2
NM_007527	Bcl2-associated X protein	Bax
NM_009765	Breast cancer 2	Brcac2
NM_023223	Cell division cycle 20 homolog (S. cerevisiae)	Cdc20
NM_023117	Cell division cycle 25 homolog B (S. cerevisiae)	Cdc25b
NM_016742	Cell division cycle 37 homolog (S. cerevisiae)	Cdc37
NM_009862	Cell division cycle 45 homolog (S. cerevisiae)-like	Cdc45l
NM_016716	Cullin 3	Cu3
NM_028288	Cullin 4B	Cu4b
NM_021548	Cyclic AMP phosphoprotein, 19 kDa	App19
NM_007724	Cyclic nucleotide gated channel alpha 2	Cnga2
NM_009823	Cyclic nucleotide phosphodiesterase 1	Cnp1

NM_009828	Cyclin A2	Ccna2
NM_016746	Cyclin C	Ccnc
NM_011806	Cyclin D binding myb-like transcription factor 1	Dmtf1
NM_007631	Cyclin D1	Ccnd1
NM_009829	Cyclin D2	Ccnd2
NM_007632	Cyclin D3	Ccnd3
NM_009830	Cyclin E2	Ccne2
NM_009831	Cyclin G1	Ccng1
NM_023243	Cyclin H	Ccnh
NM_017367	Cyclin I	Ccnl
NM_019937	Cyclin L	Ccnl
NM_009870	Cyclin-dependent kinase 4	Cdk4
NM_009871	Cyclin-dependent kinase 5, regulatory subunit (p35)	Cdk5r
NM_009875	Cyclin-dependent kinase inhibitor 1B (P27)	Cdkn1b
NM_009876	Cyclin-dependent kinase inhibitor 1C (P57)	Cdkn1c
NM_009878	Cyclin-dependent kinase inhibitor 2D (p19, inhibits CDK4)	Cdkn2d
NM_016912	Cyclin-dependent kinase-like 2 (CDC2-related kinase)	Cdkn2l
NM_007891	E2F transcription factor 1	E2f1
NM_007892	E2F transcription factor 5	E2f5
NM_008021	Forkhead box M1	Foxm1
NM_007836	Growth arrest and DNA-damage-inducible 45 alpha	Gadd45a
NM_008655	Growth arrest and DNA-damage-inducible 45 beta	Gadd45b
NM_011817	Growth arrest and DNA-damage-inducible 45 gamma	Gadd45g
NM_008316	Hus1 homolog (S. pombe)	Hus1
NM_008564	Mini chromosome maintenance deficient 2 (S. cerevisiae)	Mcm2
NM_008567	Mini chromosome maintenance deficient 6 (S. cerevisiae)	Mcm6
NM_008568	Mini chromosome maintenance deficient 7 (S. cerevisiae)	Mcm7
NM_008682	Neural precursor cell expressed, developmentally down-regulated gene 1	Nedd1
NM_031881	Neural precursor cell expressed, developmentally down-regulated gene 4-like	Nedd4l
NM_017464	Neural precursor cell expressed, developmentally down-regulated gene 9	Nedd9
NM_010890	Neural precursor cell expressed, developmentally down-regulated gene 4	Nedd4
NM_013752	Nibrin	Nbn
NM_010907	Nuclear factor of kappa light chain gene enhancer in B-cells inhibitor, alpha	Nfkbia
NM_010908	Nuclear factor of kappa light chain gene enhancer in B-cells inhibitor, beta	Nfkbib
NM_009890	Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, epsilon	Nfkbie
NM_010909	Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor-like 1	Nfkbil
NM_011045	Proliferating cell nuclear antigen	Pcna
NM_011232	RAD1 homolog (S. pombe)	Rad1
NM_011233	RAD17 homolog (S. pombe)	Rad17
NM_009009	RAD21 homolog (S. pombe)	Rad21
NM_009010	RAD23a homolog (S. cerevisiae)	Rad23a
NM_053269	Rad51 homolog c (S. cerevisiae)	Rad51
NM_011235	RAD51-like 3 (S. cerevisiae)	Rad51l3
NM_011236	RAD52 homolog (S. cerevisiae)	Rad52
NM_009065	Ras-like without CAAX 2	Rli2
NM_026653	Replication protein A1 (70 kDa)	Rpa1

NM_011284	Replication protein A2	Rpa2
NM_009029	Retinoblastoma 1	Rb1
NM_019712	Ring-box 1	Rbx1
NM_019929	SMT3 (suppressor of mit two, 3) homolog 1 (S. cerevisiae)	Sumo3
NM_013787	S-phase kinase-associated protein 2 (p45)	Skp2
NM_011594	Tissue inhibitor of metalloproteinase 2	Timp2
NM_011595	Tissue inhibitor of metalloproteinase 3	Timp3
NM_080639	Tissue inhibitor of metalloproteinase 4	Timp4
NM_009361	Transcription factor Dp 1	Tfcp1
NM_011640	Transformation related protein 53	Trp53
NM_010786	Transformed mouse 3T3 cell double minute 2	Mdm2
NM_009536	Tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, epsilon polypeptide	Ywhae
NM_019639	Ubiquitin C	Ubc

Fig 1-III-3-4 Stress Response および Cell Damage に関する遺伝子

Scatter Plot (direct) Aldh2 genotype 曝露前後比較

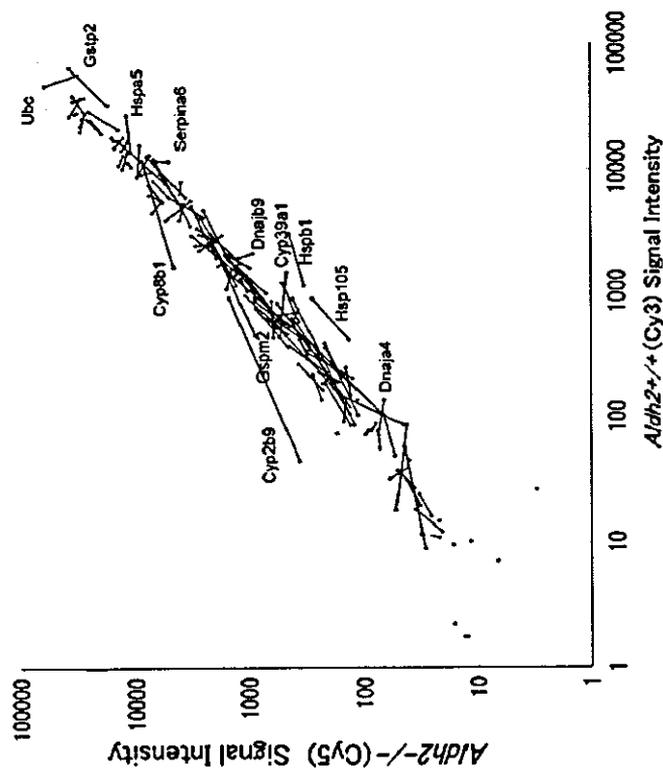


Table 1-III-3-4 Stress Response および Cell Damage に関する遺伝子

Gene Bank Accession	Description	Gene name
NM_007381	Acetyl-Coenzyme A dehydrogenase, long-chain	Acadl
NM_007382	Acetyl-Coenzyme A dehydrogenase, medium chain	Acadm
NM_007383	Acetyl-Coenzyme A dehydrogenase, short chain	Acads
NM_019811	Acetyl-Coenzyme A synthetase 2 (ADP forming)	Acas2
NM_080575	Acetyl-Coenzyme A synthetase 2 (AMP forming)-like	Acas2l
NM_008736	Ba2-associated atherogene 1	Bag1
NM_026121	BCL2-associated atherogene 4	Bag4
NM_009787	Calcium binding protein, intestinal	Cal
NM_007597	Calhexin	Canx
NM_021456	Carboxylesterase 1	Ces1
NM_053200	Carboxylesterase 3	Ces3
NM_009804	Catalase 1	Cat
NM_007636	Chaperonin subunit 2 (beta)	Cct2
NM_009836	Chaperonin subunit 3 (gamma)	Cct3

NM_009837	Chaperonin subunit 4 (delta)	Cct4
NM_007637	Chaperonin subunit 5 (epsilon)	Cct5
NM_009838	Chaperonin subunit 6a (zeta)	Cct6a
NM_009839	Chaperonin subunit 6b (zeta)	Cct6b
NM_007638	Chaperonin subunit 7 (eta)	Cct7
NM_009840	Chaperonin subunit 8 (theta)	Cct8
NM_013492	Clusterin	Clu
NM_130882	Cytochrome P450 CYP4F13	Cyp4f13
NM_019779	Cytochrome P450, 11a, cholesterol side chain cleavage	Cyp11a1
NM_009993	Cytochrome P450, 1a2, aromatic compound inducible	Cyp1a2
NM_133657	Cytochrome P450, 2a12	Cyp2a12
NM_009998	Cytochrome P450, 2b10, phenobarbital inducible, type b	Cyp2b10
NM_010000	Cytochrome P450, 2b9, phenobarbital inducible, type a	Cyp2b9
NM_010003	Cytochrome P450, 2c39	Cyp2c39
NM_010004	Cytochrome P450, 2c40	Cyp2c40
NM_010005	Cytochrome P450, 2d10	Cyp2d10
NM_019823	Cytochrome P450, 2d22	Cyp2d22
NM_021282	Cytochrome P450, 2e1, ethanol inducible	Cyp2e1
NM_007817	Cytochrome P450, 2f2	Cyp2f2
NM_013809	Cytochrome P450, 2g1	Cyp2g1
NM_010007	Cytochrome P450, 2f5	Cyp2f5
NM_010008	Cytochrome P450, 2f6	Cyp2f6
NM_018887	Cytochrome P450, 39a1 (oxysterol 7alpha-hydroxylase)	Cyp39a1
NM_007820	Cytochrome P450, 3a16	Cyp3a16
NM_010010	Cytochrome P450, 4b, subfamily a, polypeptide 1	Cyp4ba1
NM_026010	Cytochrome P450, 5f1	Cyp5f1
NM_007824	Cytochrome P450, 7a1	Cyp7a1
NM_007825	Cytochrome P450, 7b1	Cyp7b1
NM_010012	Cytochrome P450, 8b1, sterol 12 alpha-hydroxylase	Cyp8b1
NM_017396	Cytochrome P450, steroid inducible 3a41	Cyp3a41
NM_007823	Cytochrome P450, subfamily M B, polypeptide 1	Cyp4b1
NM_022434	Cytochrome P450, hydroxylase	Cyp4f14
NM_029787	Diaphorase 1 (NADH)	Dia1
NM_008298	DnaJ (Hsp40) homolog, subfamily A, member 1	DnajA1
NM_019794	DnaJ (Hsp40) homolog, subfamily A, member 2	DnajA2
NM_023646	DnaJ (Hsp40) homolog, subfamily A, member 3	DnajA3
NM_021422	DnaJ (Hsp40) homolog, subfamily A, member 4	DnajA4
NM_018608	DnaJ (Hsp40) homolog, subfamily B, member 1	DnajB1
NM_020266	DnaJ (Hsp40) homolog, subfamily B, member 10	DnajB10
NM_026400	DnaJ (Hsp40) homolog, subfamily B, member 11	DnajB11
NM_019965	DnaJ (Hsp40) homolog, subfamily B, member 12	DnajB12
NM_011847	DnaJ (Hsp40) homolog, subfamily B, member 6	DnajB6
NM_021317	DnaJ (Hsp40) homolog, subfamily B, member 7	DnajB7
NM_019964	DnaJ (Hsp40) homolog, subfamily B, member 8	DnajB8
NM_013760	DnaJ (Hsp40) homolog, subfamily B, member 9	DnajB9
NM_007869	DnaJ (Hsp40) homolog, subfamily C, member 1	DnajC1

NM_008929	DnaJ (Hsp40) homolog, subfamily C, member 3	Dnajc3
NM_016775	DnaJ (Hsp40) homolog, subfamily C, member 5	Dnajc5
NM_019795	DnaJ (Hsp40) homolog, subfamily C, member 7	Dnajc7
NM_007940	Epoxide hydrolase 2, cytoplasmic	Ephx2
NM_008030	Flavin containing monooxygenase 3	Fmo3
NM_007952	Glucose regulated protein, 58 kDa	Gp58
NM_008160	Glutathione peroxidase 1	Gpx1
NM_030677	Glutathione peroxidase 2	Gpx2
NM_008161	Glutathione peroxidase 3	Gpx3
NM_008162	Glutathione peroxidase 4	Gpx4
NM_010344	Glutathione reductase 1	Gr
NM_008181	Glutathione S-transferase, alpha 1 (Ya)	Gsta1
NM_008183	Glutathione S-transferase, mu 2	Gstm2
NM_010360	Glutathione S-transferase, mu 5	Gstm5
NM_008184	Glutathione S-transferase, mu 6	Gstm6
NM_013541	Glutathione S-transferase, pi 2	Gstp2
NM_008180	Glutathione synthetase	Gss
NM_010363	Glutathione transferase zeta 1 (maleylacetylacetate isomerase)	Gstz1
NM_008300	Heat shock 70 kDa protein 4	Hspa4
NM_022310	Heat shock 70kD protein 5 (glucose-regulated protein, 78kD)	Hspa5
NM_031165	Heat shock 70kD protein 8	Hspa8
NM_008297	Heat shock factor 2	Hsf2
NM_013866	Heat shock protein 25 kDa 2 (cardiovascular)	Hsp25
NM_013559	Heat shock protein, 105 kDa	Hsp105
NM_013560	Heat shock protein, 25 kDa	Hspb1
NM_019979	Heat shock protein, 30 kDa	Hsf2
NM_008301	Heat shock protein, 70 kDa 2	Hspa2
NM_015765	Heat shock protein, 70 kDa 4	Hspa14
NM_010481	Heat shock protein, 74 kDa, A	Hspa9a
NM_008302	Heat shock protein, 84 kDa 1	Hspcb
NM_010442	Heme oxygenase (decycling) 1	Hmox1
NM_010443	Heme oxygenase (decycling) 2	Hmox2
NM_019814	Hypoxia induced gene 1	Hig1
NM_010431	Hypoxia inducible factor 1, alpha subunit	Hif1a
NM_019946	Microsomal glutathione S-transferase 1	Mgst1
NM_019870	N-acetyltransferase ARD1 homolog (S. cerevisiae)	Ard1
NM_025539	Nudix (nucleoside diphosphate linked moiety X)-type motif 2	Nudx2
NM_016918	Nudix (nucleoside diphosphate linked moiety X)-type motif 5	Nudx5
NM_024437	Nudix (nucleoside diphosphate linked moiety X)-type motif 7	Nudx7
NM_011134	Paraoxonase 1	Pon1
NM_026352	Peptidylprolyl isomerase D (cyclophilin D)	Ppid
NM_009825	Serine (or cysteine) proteinase inhibitor, clade H, member 1	Serpinh1
NM_016737	Stress-induced phosphoprotein 1	Stip1
NM_019878	Sulfotransferase family 1B, member 1	Sult1b1
NM_013873	Sulfotransferase family 4A, member 1	Sult4a1
NM_026935	Sulfotransferase family, cytosolic, 1C, member 2	Sult1c1

NM_017465	Sulfotransferase family, cytosolic, 2B, member 1	Sult2b1
NM_013671	Superoxide dismutase 2, mitochondrial	Sod2
NM_011176	Suppression of tumorigenicity 14 (colon carcinoma)	St14
NM_022332	Suppression of tumorigenicity 7	S17
NM_013686	T-complex protein 1	Tcp1
NM_009340	T-complex protein 10a	Tcp10a
NM_011553	T-complex protein 10b	Tcp10b
NM_009341	T-complex protein 10c	Tcp10c
NM_013687	T-complex protein 11	Tcp11
NM_019768	Telomerase binding protein, p23	Tebp
NM_016785	Theapurine methyltransferase	Tpm1
NM_011631	Tumor rejection antigen gp96	Tra1
NM_019639	Ubiquitin C	Ubc
NM_009467	UDP-glucuronosyltransferase 2 family, member 5	Ugt2b5
NM_011723	Xanthine dehydrogenase	Xdh

Fig 1-III-3-5 Stress, および薬物代謝に関与する遺伝子

Scatter Plot (direct) Aldh2 genotype 曝露前後比較

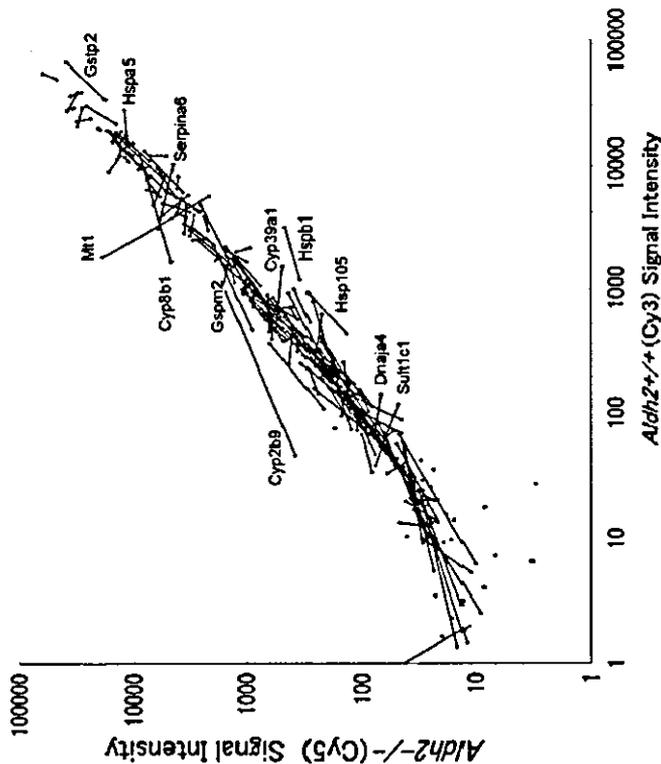


Table 1-III-3-5 Stress, および薬物代謝に関与する遺伝子

Gene Bank Accession	Description	Gene Name
NM_010730	Annexin A1	Anxa1
NM_013469	Annexin A11	Anxa11
NM_007585	Annexin A2	Anxa2
NM_009673	Annexin A5	Anxa5
NM_009674	Annexin A7	Anxa7
NM_007499	Ataxia telangiectasia mutated homolog (human)	Atm
NM_007527	Bcl2-associated X protein	Bax
NM_009743	Bcl2-like	Bcl2l1
NM_009807	Caspase 1	Casp1
NM_009808	Caspase 12	Casp12
NM_007610	Caspase 2	Casp2
NM_009810	Caspase 3, apoptosis related cysteine protease	Casp3

NM_009811	Caspase 6	Casp6
NM_007611	Caspase 7	Casp7
NM_011997	Caspase 8 associated protein 2	Casp8ap2
NM_015733	Caspase 9	Casp9
NM_011331	Chemokine (C-C motif) ligand 12	Ccl12
NM_011332	Chemokine (C-C motif) ligand 17	Ccl17
NM_011888	Chemokine (C-C motif) ligand 19	Ccl19
NM_016960	Chemokine (C-C motif) ligand 20	Ccl20
NM_009137	Chemokine (C-C motif) ligand 22	Ccl22
NM_019577	Chemokine (C-C motif) ligand 24	Ccl24
NM_009138	Chemokine (C-C motif) ligand 25	Ccl25
NM_013652	Chemokine (C-C motif) ligand 4	Ccl4
NM_013654	Chemokine (C-C motif) ligand 7	Ccl7
NM_021443	Chemokine (C-C motif) ligand 8	Ccl8
NM_009812	Chemokine (C-C motif) receptor 1	Ccr1
NM_009816	Chemokine (C-C motif) receptor 4	Ccr4
NM_009813	Chemokine (C-C motif) receptor 9	Ccr9
NM_017466	Chemokine (C-C motif) receptor-like 2	Ccr2l
NM_009814	Chemokine (C-C) receptor 3	Ccr3
NM_013655	Chemokine (C-X-C motif) ligand 12	Cxcl12
NM_019568	Chemokine (C-X-C motif) ligand 14	Cxcl14
NM_011339	Chemokine (C-X-C motif) ligand 15	Cxcl15
NM_008659	Chemokine (C-X-C motif) ligand 9	Cxcl9
NM_009810	Chemokine (C-X-C motif) receptor 3	Ccr3
NM_030712	Chemokine (C-X-C motif) receptor 6	Cxcr6
NM_007778	Colony stimulating factor 1 (macrophage)	Csf1
NM_007780	Colony stimulating factor 2 receptor, beta 1, low-affinity (granulocyte-macrophage)	Csf2rb1
NM_007781	Colony stimulating factor 2 receptor, beta 2, low-affinity (granulocyte-macrophage)	Csf2rb2
NM_009871	Colony stimulating factor 3 (granulocyte)	Csf3
NM_009864	Crystallin, alpha B	Cryab
NM_030704	Crystallin, alpha C	Cryac
NM_021541	Crystallin, beta A2	Cryba2
NM_030004	Crystallin, lambda 1	Cryl1
NM_016669	Crystallin, mu	Crym
NM_018746	Cyclin C	Cenc
NM_011806	Cyclin D binding myb-like transcription factor 1	Dmf1
NM_007631	Cyclin D1	Cend1
NM_009829	Cyclin D2	Cend2
NM_007632	Cyclin D3	Cend3
NM_009830	Cyclin E2	Cenc2
NM_009631	Cyclin G	Ceng
NM_023243	Cyclin H	Cenh
NM_017967	Cyclin I	Ceni
NM_019937	Cyclin L	Cenl
NM_009870	Cyclin-dependent kinase 4	Cdkn4
NM_009871	Cyclin-dependent kinase 5, regulatory subunit (p35)	Cdkn5
NM_009875	Cyclin-dependent kinase inhibitor 1B (P27)	Cdkn1b

NM_009876	Cyclin-dependent kinase inhibitor 1C (P57)	Cdk1c
NM_009878	Cyclin-dependent kinase inhibitor 2D (p19, inhibits CDK4)	Cdk2d
NM_016912	Cyclin-dependent kinase-like 2 (CDC2-related kinase)	Cdk2
NM_007807	Cytochrome b-245, beta polypeptide	Cyb
NM_025797	Cytochrome b-5	Cyb5
NM_007805	Cytochrome b-561	Cyb561
NM_009941	Cytochrome c oxidase subunit IV isoform 1	Cox4i1
NM_053091	Cytochrome c oxidase subunit IV isoform 2	Cox4i2
NM_007747	Cytochrome c oxidase subunit V isoform 1	Cox5i1
NM_009187	Cytochrome c oxidase subunit VIIa polypeptide 2-like	Cox7a2l
NM_025379	Cytochrome c oxidase subunit VIIb	Cox7b
NM_007748	Cytochrome c oxidase, subunit VI a, polypeptide 1	Cox6a1
NM_053071	Cytochrome c oxidase, subunit VIc	Cox6c
NM_009945	Cytochrome c oxidase, subunit VIIa 2	Cox7a2
NM_007750	Cytochrome c oxidase, subunit VIIa	Cox8a
NM_007808	Cytochrome c, somatic	Cyca
NM_009989	Cytochrome c, testis	Cyct
NM_130882	Cytochrome P450 CYP4F13	Cyp4f13
NM_019779	Cytochrome P450, 11a, cholesterol side chain cleavage	Cyp11a1
NM_010000	Cytochrome P450, 2b9, phenobarbital inducible, type a	Cyp2b9
NM_020010	Cytochrome P450, 51	Cyp51
NM_009993	Cytochrome P450, family 1, subfamily a, polypeptide 2	Cyp1a2
NM_133657	Cytochrome P450, family 2, subfamily a, polypeptide 12	Cyp2a12
NM_009998	Cytochrome P450, family 2, subfamily b, polypeptide 10	Cyp2b10
NM_010003	Cytochrome P450, family 2, subfamily c, polypeptide 39	Cyp2c39
NM_010004	Cytochrome P450, family 2, subfamily c, polypeptide 40	Cyp2c40
NM_010005	Cytochrome P450, family 2, subfamily d, polypeptide 10	Cyp2d10
NM_019823	Cytochrome P450, family 2, subfamily d, polypeptide 22	Cyp2d22
NM_021282	Cytochrome P450, family 2, subfamily e, polypeptide 1	Cyp2e1
NM_007817	Cytochrome P450, family 2, subfamily f, polypeptide 2	Cyp2f2
NM_013809	Cytochrome P450, family 2, subfamily g, polypeptide 1	Cyp2g1
NM_010007	Cytochrome P450, family 2, subfamily j, polypeptide 5	Cyp2j5
NM_010008	Cytochrome P450, family 2, subfamily j, polypeptide 6	Cyp2j6
NM_007820	Cytochrome P450, family 3, subfamily a, polypeptide 16	Cyp3a16
NM_017396	Cytochrome P450, family 3, subfamily a, polypeptide 41	Cyp3a41
NM_018887	Cytochrome P450, family 39, subfamily a, polypeptide 1	Cyp39a1
NM_007823	Cytochrome P450, family 4, subfamily b, polypeptide 1	Cyp4b1
NM_022434	Cytochrome P450, family 4, subfamily f, polypeptide 14	Cyp4f14
NM_010010	Cytochrome P450, family 46, subfamily a, polypeptide 1	Cyp46
NM_007825	Cytochrome P450, family 7, subfamily a, polypeptide 1	Cyp7a1
NM_010012	Cytochrome P450, family 7, subfamily b, polypeptide 1	Cyp7b1
NM_010012	Cytochrome P450, family 8, subfamily b, polypeptide 1	Cyp8b1
NM_007837	DNA-damage inducible transcript 3	Ddit3
NM_008298	DnaJ (Hsp40) homolog, subfamily A, member 1	Dnej1a
NM_019794	DnaJ (Hsp40) homolog, subfamily A, member 2	Dnej1a2
NM_023648	DnaJ (Hsp40) homolog, subfamily A, member 3	Dnej1a3

NM_021422	DnaJ (Hsp40) homolog, subfamily A, member 4	Dnej1a4
NM_018608	DnaJ (Hsp40) homolog, subfamily B, member 1	Dnej1b
NM_020266	DnaJ (Hsp40) homolog, subfamily B, member 10	Dnej1b10
NM_026400	DnaJ (Hsp40) homolog, subfamily B, member 11	Dnej1b11
NM_019965	DnaJ (Hsp40) homolog, subfamily B, member 12	Dnej1b12
NM_011847	DnaJ (Hsp40) homolog, subfamily B, member 6	Dnej1b6
NM_021317	DnaJ (Hsp40) homolog, subfamily B, member 7	Dnej1b7
NM_019964	DnaJ (Hsp40) homolog, subfamily B, member 8	Dnej1b8
NM_013760	DnaJ (Hsp40) homolog, subfamily B, member 9	Dnej1b9
NM_007869	DnaJ (Hsp40) homolog, subfamily C, member 1	Dnej1c
NM_008929	DnaJ (Hsp40) homolog, subfamily C, member 3	Dnej1c3
NM_020566	DnaJ (Hsp40) homolog, subfamily C, member 4	Dnej1c4
NM_016775	DnaJ (Hsp40) homolog, subfamily C, member 5	Dnej1c5
NM_019795	DnaJ (Hsp40) homolog, subfamily C, member 7	Dnej1c7
NM_007891	E2F transcription factor 1	E2f1
NM_007913	Early growth response 1	Egr1
NM_007940	Epoxyde hydrolase 2, cytoplasmic	Ephx2
NM_008030	Flavin containing monooxygenase 3	Fmo3
NM_008160	Glutathione peroxidase 1	Gpx1
NM_030677	Glutathione peroxidase 2	Gpx2
NM_008161	Glutathione peroxidase 3	Gpx3
NM_008162	Glutathione peroxidase 4	Gpx4
NM_010344	Glutathione reductase 1	Gsr1
NM_008181	Glutathione S-transferase, alpha 1 (Ya)	Gsta1
NM_008183	Glutathione S-transferase, mu 2	Gstm2
NM_010360	Glutathione S-transferase, mu 5	Gstm5
NM_008184	Glutathione S-transferase, mu 6	Gstm6
NM_013541	Glutathione S-transferase, pi 2	Gstp2
NM_008180	Glutathione synthetase	Gss
NM_010363	Glutathione transferase zeta 1 (maleylacetoacetate isomerase)	Gstz1
NM_007836	Growth arrest and DNA-damage-inducible 45 alpha	Gadd45a
NM_008655	Growth arrest and DNA-damage-inducible 45 beta	Gadd45b
NM_011817	Growth arrest and DNA-damage-inducible 45 gamma	Gadd45g
NM_008303	Heat shock 70 kDa protein 1 (chaperonin 10)	Hsp70
NM_053120	Heat shock 70 kDa protein 1 (chaperonin 10), pseudogene 2	Hsp70-p2
NM_008300	Heat shock 70 kDa protein 4	Hsp70
NM_022310	Heat shock 70kD protein 5 (glucose-regulated protein, 78kD)	Hspa5
NM_031165	Heat shock 70kD protein 6	Hspa6
NM_008297	Heat shock factor 2	Hsf2
NM_013868	Heat shock protein 25 kDa 2 (cardiovascular)	Hsp25
NM_013559	Heat shock protein, 105 kDa	Hsp105
NM_013560	Heat shock protein, 25 kDa	Hsp25
NM_019879	Heat shock protein, 30 kDa	Hsp30
NM_008301	Heat shock protein, 70 kDa 2	Hsp70
NM_015765	Heat shock protein, 70 kDa 4	Hsp70
NM_010481	Heat shock protein, 74 kDa, A	Hspa8a

NM_008302	Heat shock protein, 84 kDa 1	Hspcb
NM_010442	Heme oxygenase (decycling) 1	Hmox1
NM_010443	Heme oxygenase (decycling) 2	Hmox2
NM_008342	Insulin-like growth factor binding protein 2	Igfbp2
NM_010517	Insulin-like growth factor binding protein 4	Igfbp4
NM_010518	Insulin-like growth factor binding protein 5	Igfbp5
NM_008344	Insulin-like growth factor binding protein 6	Igfbp6
NM_134103	Interleukin 1 receptor accessory protein	Il1rap
NM_010555	Interleukin 1 receptor, type II	Il1r2
NM_008349	Interleukin 10 receptor, beta	Il10r2
NM_008350	Interleukin 11	Il11
NM_010549	Interleukin 11 receptor, alpha chain 1	Il11ra1
NM_010550	Interleukin 11 receptor, alpha chain 2	Il11ra2
NM_008357	Interleukin 15	Il15
NM_008359	Interleukin 17 receptor	Il17r
NM_010531	Interleukin 18 binding protein	Il18bp
NM_021887	Interleukin 21 receptor	Il21r
NM_016971	Interleukin 22	Il22
NM_031252	Interleukin 23, alpha subunit p19	Il23a
NM_010557	Interleukin 4 receptor, alpha	Il4ra
NM_010561	Interleukin enhancer binding factor 3	Ilf3
NM_010798	Macrophage migration inhibitory factor	Mif
NM_013602	Metallothionein 1	Mt1
NM_010841	Metallothionein-like 5, testis-specific (testin)	Mt5
NM_008712	Nitric oxide synthase 1, neuronal	Nos1
NM_008713	Nitric oxide synthase 3, endothelial cell	Nos3
NM_008687	Nuclear factor Iβ	Nfkb
NM_008688	Nuclear factor Iκ	Nfkc
NM_010907	Nuclear factor of kappa light chain gene enhancer in B-cells inhibitor, alpha	Nrkb1a
NM_010908	Nuclear factor of kappa light chain gene enhancer in B-cells inhibitor, beta	Nrkb1b
NM_008690	Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, epsilon	Nrkb1e
NM_010909	Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor-like 1	Nrkb1l
NM_008898	P-450 (cytochrome) oxidoreductase	Por
NM_011045	Proliferating cell nuclear antigen	Pcna
NM_008969	Prostaglandin-endoperoxide synthase 1	Ptgs1
NM_011198	Prostaglandin-endoperoxide synthase 2	Ptgs2
NM_011232	RAD1 homolog (S. pombe)	Rad1
NM_011233	RAD17 homolog (S. pombe)	Rad17
NM_009009	RAD21 homolog (S. pombe)	Rad21
NM_009010	RAD23a homolog (S. cerevisiae)	Rad23a
NM_053269	Rad51 homolog c (S. cerevisiae)	Rad51
NM_011235	RAD51-like 3 (S. cerevisiae)	Rad51l3
NM_011236	RAD52 homolog. (S. cerevisiae)	Rad52
NM_008458	Serine (or cysteine) proteinase inhibitor, clade A, member 3C	Serpna3c
NM_008785	Serine (or cysteine) proteinase inhibitor, clade A, member 5	Serpna5
NM_007618	Serine (or cysteine) proteinase inhibitor, clade A, member 6	Serpna6

NM_009254	Serine (or cysteine) proteinase inhibitor, clade B, member 6	Serpnb6
NM_027548	Serine (or cysteine) proteinase inhibitor, clade B, member 7	Serpnb7
NM_080844	Serine (or cysteine) proteinase inhibitor, clade C (antithrombin), member 1	Serpnc1
NM_009255	Serine (or cysteine) proteinase inhibitor, clade E, member 2	Serpne2
NM_011340	Serine (or cysteine) proteinase inhibitor, clade F, member 1	Serpfn1
NM_008878	Serine (or cysteine) proteinase inhibitor, clade F, member 2	Serpfn2
NM_009776	Serine (or cysteine) proteinase inhibitor, clade G, member 1	Serpng1
NM_009825	Serine (or cysteine) proteinase inhibitor, clade H, member 1	Serpnh1
NM_009250	Serine (or cysteine) proteinase inhibitor, clade I, member 1	Serpni1
NM_013671	Superoxide dismutase 2, mitochondrial	Sod2
NM_011640	Transformation related protein 53	Trp53
NM_010785	Transformed mouse 3T3 cell double minute 1	Mdm1
NM_010786	Transformed mouse 3T3 cell double minute 2	Mdm2
NM_013693	Tumor necrosis factor	Tnf
NM_011613	Tumor necrosis factor (ligand) superfamily, member 11	Tnfsf11
NM_023517	Tumor necrosis factor (ligand) superfamily, member 13	Tnfsf13
NM_009403	Tumor necrosis factor (ligand) superfamily, member 8	Tnfsf8
NM_008764	Tumor necrosis factor receptor superfamily, member 11b (osteoprotegerin)	Tnfr11b
NM_028075	Tumor necrosis factor receptor superfamily, member 13c	Tnfr13c
NM_011608	Tumor necrosis factor receptor superfamily, member 17	Tnfr17
NM_013869	Tumor necrosis factor receptor superfamily, member 19	Tnfr19
NM_052975	Tumor necrosis factor receptor superfamily, member 21	Tnfr21
NM_011659	Tumor necrosis factor receptor superfamily, member 4	Tnfr4
NM_009395	Tumor necrosis factor, alpha-induced protein 1 (endothelial)	Tnfrap1
NM_009467	UDP-glucuronosyltransferase 2 family, member 5	Ugt2b5