

Fig 1-III-3-6 Drug Metabolism に関与する遺伝子

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

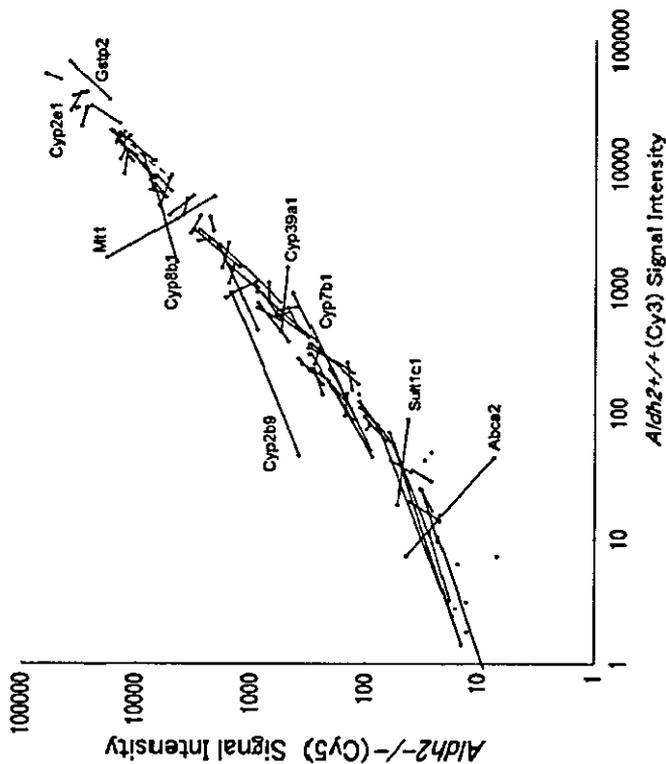


Table 1-III-3-6 Drug Metabolism に関与する遺伝子

Gene Bank Accession	Description	Gene Name
NM_134130	Aldehyde dehydrogenase domain containing 3	Abhd3
NM_013454	ATP-binding cassette, sub-family A (ABC1), member 2	Abca1
NM_007379	ATP-binding cassette, sub-family A (ABC1), member 2	Abca2
NM_007378	ATP-binding cassette, sub-family A (ABC1), member 4	Abca4
NM_013850	ATP-binding cassette, sub-family A (ABC1), member 7	Abca7
NM_019552	ATP-binding cassette, sub-family B (MDR/TAP), member 10	Abcb10
NM_021022	ATP-binding cassette, sub-family B (MDR/TAP), member 11	Abcb11
NM_011076	ATP-binding cassette, sub-family B (MDR/TAP), member 1A	Abcb1a
NM_008830	ATP-binding cassette, sub-family B (MDR/TAP), member 4	Abcb4
NM_023732	ATP-binding cassette, sub-family B (MDR/TAP), member 6	Abcb6
NM_019875	ATP-binding cassette, sub-family B (MDR/TAP), member 9	Abcb9
NM_008576	ATP-binding cassette, sub-family C (CFTR/MRP), member 1	Abcc1
NM_013806	ATP-binding cassette, sub-family C (CFTR/MRP), member 2	Abcc2

NM_013790	ATP-binding cassette, sub-family C (CFTR/MRP), member 5	Abcc5b
NM_021043	ATP-binding cassette, sub-family C (CFTR/MRP), member 9	Abcc9
NM_011994	ATP-binding cassette, sub-family D (ALD), member 2	Abcd2
NM_008992	ATP-binding cassette, sub-family D (ALD), member 4	Abcd4
NM_008993	ATP-binding cassette, sub-family G (WHITE), member 1	Abcg1
NM_011920	ATP-binding cassette, sub-family G (WHITE), member 2	Abcg2
NM_030239	ATP-binding cassette, sub-family G (WHITE), member 3	Abcg3
NM_028180	ATP-binding cassette, sub-family G (WHITE), member 8	Abcg8
NM_016803	Carbohydrate (keratan sulfate/GlcA6) sulfotransferase 3	Chst3
NM_023850	Carbohydrate (keratan sulfate/Glc6) sulfotransferase 1	Chst1
NM_007760	Carnitine acyltransferase	CRA1
NM_007807	Cytochrome b-245, beta polypeptide	Cybb
NM_025797	Cytochrome b-5	Cyb5
NM_007805	Cytochrome b-561	Cyb5b1
NM_007808	Cytochrome c, somatic	Cycc
NM_008989	Cytochrome c, testis	Cyct
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_007748	Cytochrome c oxidase, subunit VI a, polypeptide 1	Cox6a1
NM_053071	Mus musculus cytochrome c oxidase, subunit Vc	Cox6c
NM_009945	Cytochrome c oxidase, subunit VIIa 2	Cox7a2
NM_007750	Cytochrome c oxidase, subunit VIIIa	Cox8a
NM_008187	Cytochrome c oxidase subunit VIIa polypeptide 2-like	Cox7a2l
NM_025379	Cytochrome c oxidase subunit VIIb	Cox7b
NM_019779	Cytochrome P450, family 11, subfamily a, polypeptide 1	Cyp11a
NM_009993	Cytochrome P450, family 1, subfamily a, polypeptide 2	Cyp1a2
NM_133657	Cytochrome P450, family 2, subfamily a, polypeptide 12	Cyp2a12
NM_008998	Cytochrome P450, family 2, subfamily b, polypeptide 10	Cyp2b10
NM_010000	Cytochrome P450, family 2, subfamily b, polypeptide 11	Cyp2b11
NM_010003	Cytochrome P450, family 2, subfamily c, polypeptide 39	Cyp2c40
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_018887	Cytochrome P450, family 39, subfamily a, polypeptide 1	Cyp39a1
NM_007820	Cytochrome P450, family 3, subfamily a, polypeptide 16	Cyp3a16
NM_010010	Cytochrome P450, family 46, subfamily a, polypeptide 1	Cyp46
NM_020010	Cytochrome P450, 51	Cyp51
NM_007824	Cytochrome P450, family 7, subfamily a, polypeptide 1	Cyp7a1
NM_007825	Cytochrome P450, family 7, subfamily b, polypeptide 1	Cyp7b1
NM_010012	Cytochrome P450, family 8, subfamily b, polypeptide 1	Cyp8b1

NM_017398	Cytochrome P450, family 3, subfamily a, polypeptide 41	Cyp3a41
NM_007823	Cytochrome P450, family 4, subfamily b, polypeptide 1	Cyp4b1
NM_022434	Cytochrome P450, family 4, subfamily f, polypeptide 14	Cyp4f14
NM_130882	Cytochrome P450, family 4, subfamily f, polypeptide 13	Cyp4f13
NM_007940	Epoxide hydrolase 2, cytoplasmic	Ephx2
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_008517	Leukotriene A4 hydrolase	Lia4h
NM_008521	Leukotriene C4 synthase	Ltc4s
NM_013602	Metallothionein 1	Mt1
NM_010841	Metallothionein-like 5, testis-specific (testin)	Mt15
NM_019870	N-acetyltransferase ARD1 homolog (S. cerevisiae)	Ard1
NM_008898	P450 (cytochrome) oxidoreductase	Por
NM_026935	Sulfotransferase family, cytosolic, 1C, member 1	Sult1c2
NM_017465	Sulfotransferase family, cytosolic, 2B, member 1	Sult2b1
NM_019878	Sulfotransferase family 1B, member 1	Sult1b1
NM_013873	Sulfotransferase family 4A, member 1	Sult4a1
NM_016785	Thiopurine methyltransferase	Tpmt
NM_013683	Transporter 1, ATP-binding cassette, sub-family B (MDR/TAP)	Tap1
NM_011530	Transporter 2, ATP-binding cassette, sub-family B (MDR/TAP)	Tap2
NM_009467	UDP-glucuronosyltransferase 2 family, member 5	Ugt2b5
NM_011674	UDP-glucuronosyltransferase 8	Ugt8

Fig 1-III-3-7 Extracellular Matrix および Adhesion 関連遺伝子
Scatter Plot (direct) Aldh2 genotype 曝露前後比較

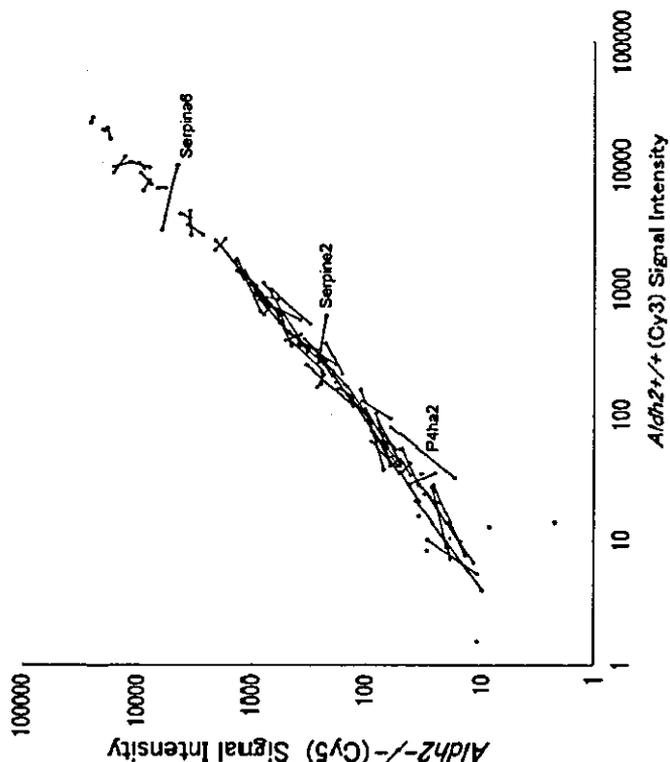


Table 1-III-3-7 Extracellular Matrix および Adhesion 関連遺伝子

Gene Bank Accession	Description	Gene Name
NM_009621	A disintegrin-like and metalloprotease (reprolysin type) with thrombospondin type 1 motif, 1	Adams1
NM_011782	A disintegrin-like and metalloprotease (reprolysin type) with thrombospondin type 1 motif, 5 (Begrucanase-2)	Adams5
NM_009854	Cadherin 1	Cdh1
NM_009866	Cadherin 11	Cdh11
NM_019707	Cadherin 13	Cdh13
NM_007654	Cadherin 2	Cdh2
NM_009867	Cadherin 4	Cdh4
NM_009868	Cadherin 5	Cdh5
NM_007667	Cadherin 8	Cdh8
NM_009818	Catenin alpha 1	Ctna1
NM_009819	Catenin alpha 2	Ctna2

NM_007614	Catenin beta	Catnb
NM_023465	Catenin beta interacting protein 1	Catnbip1
NM_008729	Catenin delta 2	Catnd2
NM_007615	Catenin src	Catns
NM_009983	Cathepsin D	Ctsd
NM_007799	Cathepsin E	Ctse
NM_019861	Cathepsin F	Ctse
NM_007800	Cathepsin G	Ctsg
NM_007801	Cathepsin H	Ctsh
NM_009984	Cathepsin L	Ctll
NM_021281	Cathepsin S	Ctss
NM_022325	Cathepsin Z	Ctssz
NM_010581	CD47 antigen (Rh-related antigen, integrin-associated signal transducer)	Cd47
NM_007727	Contactin 1	Cntn1
NM_008779	Contactin 3	Cntn3
NM_017383	Contactin 6	Cntn6
NM_009979	Contactin 9	Cntn9
NM_007793	Cystatin B	Cstb
NM_009976	Cystatin C	Cstc
NM_009977	Cystatin F (leukocystatin)	Cstf
NM_033037	Cysteine dioxygenase 1, cytosolic	Cdo1
NM_007763	Cysteine rich intestinal protein	Crip1
NM_007791	Cysteine rich protein 1	Crsp1
NM_024223	Cysteine rich protein 2	Crsp2
NM_010516	Cysteine rich protein 61	Csrp61
NM_028650	Cysteine-rich hydrophobic domain 2	Chic2
NM_133930	Cysteine-rich with EGF-like domains 1	Crd1
NM_007899	Extracellular matrix protein 1	Ecm1
NM_009149	Golgi apparatus protein 1	Glg1
NM_009396	Integrin alpha 2	Iiga2
NM_010576	Integrin alpha 4	Iiga4
NM_008397	Integrin alpha 6	Iiga6
NM_008401	Integrin alpha M	Igam
NM_021334	Integrin alpha X	Igax
NM_008403	Integrin beta 1 binding protein 1	Igfbp1
NM_008404	Integrin beta 2	Igfb2
NM_010580	Integrin beta 5	Igfb5
NM_010494	Intercellular adhesion molecule 2	Icam2
NM_008480	Lamin, alpha 1	Lama1
NM_008485	Lamin, gamma 2	Lamc2
NM_019390	Lamin A	Lmna
NM_010721	Lamin B1	Lmnb1
NM_011029	Lamin receptor 1 (67kD, ribosomal protein_SA)	Lamr1
NM_008606	Matrix metalloproteinase 11	Mmp11
NM_008605	Matrix metalloproteinase 12	Mmp12
NM_008608	Matrix metalloproteinase 14 (membrane-inserted)	Mmp14

NM_008609	Matrix metalloproteinase 15	Mmp15
NM_011846	Matrix metalloproteinase 17	Mmp17
NM_008610	Matrix metalloproteinase 2	Mmp2
NM_010809	Matrix metalloproteinase 3	Mmp3
NM_023799	Meningioma expressed antigen 5 (hyaluronidase)	Mgea5
NM_008816	Platelet/endothelial cell adhesion molecule	Pecam1
NM_008788	Procollagen C-proteinase enhancer protein	Pcep
NM_011981	Procollagen lysine, 2-oxoglutarate 5-dioxygenase 2	Plod2
NM_007734	Procollagen, type IV, alpha 3	Col4a3
NM_015734	Procollagen, type V, alpha 1	Col5a1
NM_007737	Procollagen, type V, alpha 2	Col5a2
NM_016919	Procollagen, type V, alpha 3	Col5a3
NM_007729	Procollagen, type XI, alpha 1	Col9a1
NM_009926	Procollagen, type XI, alpha 2	Col9a2
NM_009928	Procollagen, type XV	Col15
NM_009929	Procollagen, type XVIII, alpha 1	Col18a1
NM_011031	Procollagen-proline, 2-oxoglutarate 4-dioxygenase (proline 4-hydroxylase), alpha II polypeptide	P4ha2
NM_009242	Secreted acidic cysteine rich glycoprotein	Sparc
NM_011346	Selectin, lymphocyte	Sell
NM_011347	Selectin, platelet	Selp
NM_009458	Serine (or cysteine) proteinase inhibitor, clade A, member 3C	Serpine3c
NM_008785	Serine (or cysteine) proteinase inhibitor, clade A, member 5	Serpine5
NM_007618	Serine (or cysteine) proteinase inhibitor, clade A, member 6	Serpine6
NM_009254	Serine (or cysteine) proteinase inhibitor, clade B, member 6	Serpineb6
NM_027548	Serine (or cysteine) proteinase inhibitor, clade B, member 7	Serpineb7
NM_080844	Serine (or cysteine) proteinase inhibitor, clade C (antithrombin), member 1	Serpinc1
NM_009255	Serine (or cysteine) proteinase inhibitor, clade E, member 2	Serpine2
NM_011340	Serine (or cysteine) proteinase inhibitor, clade F, member 1	Serpinf1
NM_009878	Serine (or cysteine) proteinase inhibitor, clade F, member 2	Serpinf2
NM_009776	Serine (or cysteine) proteinase inhibitor, clade G, member 1	Serping1
NM_009825	Serine (or cysteine) proteinase inhibitor, clade H, member 1	Serpinh1
NM_009250	Serine (or cysteine) proteinase inhibitor, clade I, member 1	Serpini1
NM_031176	Tenascin XB	Tnxb
NM_013691	Thrombospondin 3	THBS3
NM_011582	Thrombospondin 4	THBS4
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_011707	Vitronectin	Vtn

Fig 1-III-3-8 Toll-Like Receptor Signaling Pathway 關連遺伝子
Scatter Plot (direct) Aldh2 genotype 曝露前後比較

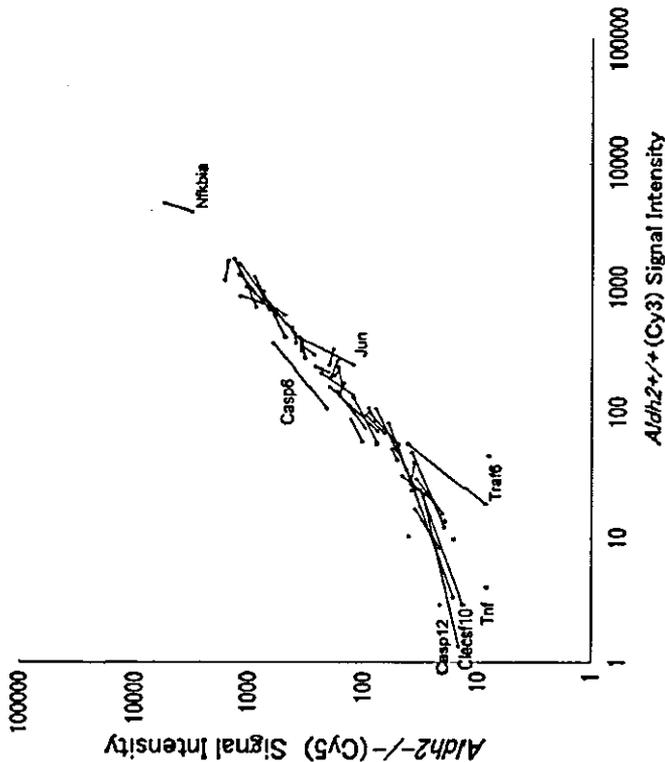


Table 1-III-3-8 Toll-Like Receptor Signaling Pathway 關連遺伝子

Gene Bank Accession	Description	Gene name
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_009841	CD14 antigen	Cd14
NM_007700	Conserved helix-loop-helix ubiquitous kinase	Chuk
NM_020001	C-type (calcium dependent, carbohydrate recognition domain) lectin, superfamily member 10	Clec1f10
NM_016751	C-type (calcium dependent, carbohydrate recognition domain) lectin, superfamily member 5	Clec1f3

NM_021364	member 13		Clec1f5
NM_013508	C-type (calcium dependent, carbohydrate-recognition domain) lectin, superfamily member 5		
NM_010234	ELK3, member of ETS oncogene family		Elk3
NM_030701	FBJ osteosarcoma oncogene		Fos
NM_016696	G protein-coupled receptor 109B		Gpr109b
NM_016697	Glypican 1		Gpc1
NM_008284	Glypican 3		Gpc3
NM_008300	Harvey rat sarcoma virus oncogene		Hras1
NM_008253	Heat shock 70 kDa protein 4		Hspa4
NM_010547	High mobility group box 3		Hmgb3
NM_008338	Inhibitor of kappaB kinase gamma		Ikkbg
NM_008326	Interferon gamma receptor		Ifngr1
NM_008326	Interferon gamma receptor 2		Ifngr2
NM_008326	Interferon gamma receptor 1		Ifi1
NM_008326	Interferon inducible protein 1		Irf1
NM_008326	Interferon regulatory factor 2		Irf2
NM_008326	Interferon regulatory factor 3		Irf3
NM_019440	Interferon-g induced GTPase 2		Ilgp2
NM_010591	Jun oncogene		Jun
NM_008533	Lymphocyte antigen 78		Ly78
NM_010745	Lymphocyte antigen 86		Ly86
NM_008534	Lymphocyte antigen 9		Ly9
NM_016923	Lymphocyte antigen 96		Ly96
NM_009158	Mitogen activated protein kinase 10		Mapk10
NM_011951	Mitogen activated protein kinase 14		Mapk14
NM_016700	Mitogen activated protein kinase 8		Mapk8
NM_016961	Mitogen activated protein kinase 9		Mapk9
NM_013931	Mitogen-activated protein kinase 8 interacting protein 3		Mapk8ip3
NM_010762	Myelin and lymphocyte protein, T-cell differentiation protein		Mal
NM_010907	Nuclear factor of kappa light chain gene enhancer in B-cells inhibitor, alpha		Nikbia
NM_010908	Nuclear factor of kappa light chain gene enhancer in B-cells inhibitor, beta		Nikbib
NM_008690	Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, epsilon		Nikbie
NM_010909	Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor-like 1		Nikb1l1
NM_023324	Pellino 1		Pell1
NM_011198	Prostaglandin-endoperoxide synthase 2		Pigs2
NM_012028	Signaling intermediate in Toll pathway-evolutionarily conserved		Stipac
NM_009424	Tnf receptor-associated factor 6		Traf6
NM_023764	Toll interacting protein		Tollip
NM_011905	Toll-like receptor 2		Tlr2
NM_021297	Toll-like receptor 4		Tlr4
NM_013693	Tumor necrosis factor		Tnf
NM_009560	Ubiquitin-conjugating enzyme E2N		Ube2n
NM_009045	V-rel reticuloendotheliosis viral oncogene homolog A, (avian)		Rela

Fig 1-III-3-9 Endothelial Cell 関連遺伝子
Scatter Plot (direct) Aldh2 genotype 曝露前後比較

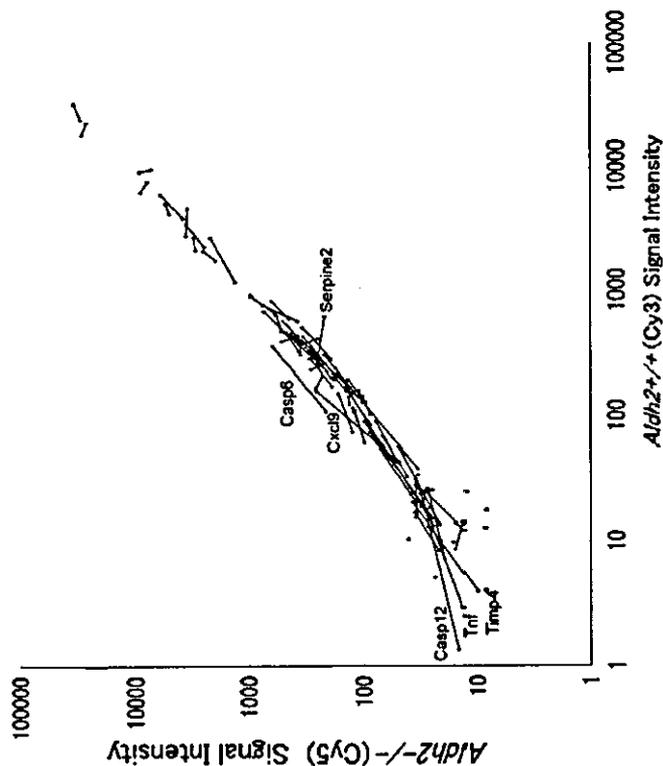


Table 1-III-3-9 Endothelial Cell 関連遺伝子

Gene Bank Accession	Description	Gene Name
NM_009640	Angiopoietin	Angp1
NM_007429	Angiotensin II receptor, type 2	Agtr2
NM_009673	Annexin A5	Anxa5
NM_007464	Baculoviral IAP repeat-containing 2	Birc3
NM_007465	Baculoviral IAP repeat-containing 3	Birc2
NM_009741	B-cell leukemia/lymphoma 2	Bcl2
NM_007527	Bcl2-associated X protein	Bax
NM_009743	Bcl2-like	Bcl2l1
NM_009868	Cadherin 5	Cdh5
NM_009950	CASP2 domain containing adaptor with death domain	Cradl
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_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_008599	Chemokine (C-X-C motif) ligand 9	Cxcl9
NM_007693	Chromogranin A	Chga
NM_007694	Chromogranin B	Chgb
NM_007728	Coagulation factor C homolog (Limulus polyphamus)	Coch
NM_010168	Coagulation factor II	F2
NM_010169	Coagulation factor II (thrombin) receptor	F2r
NM_010170	Coagulation factor II (thrombin) receptor-like 2	F2rl2
NM_007976	Coagulation factor V	F5
NM_010172	Coagulation factor VII	F7
NM_007972	Coagulation factor X	F10
NM_021489	Coagulation factor XII (Hageman factor)	F12
NM_031164	Coagulation factor XIII, beta subunit	F13
NM_007778	Colony stimulating factor 1 (macrophage)	Csf1
NM_009671	Colony stimulating factor 3 (granulocyte)	Csf3
NM_013690	Endothelial-specific receptor tyrosine kinase	Tek
NM_007904	Endothelin receptor type B	Ednrb
NM_010228	FMS-like tyrosine kinase 1	Flt1
NM_010229	FMS-like tyrosine kinase 3	Flt3
NM_013520	FMS-like tyrosine kinase 3 ligand	Flt3l
NM_010370	Granzyme A	Gzma
NM_013542	Granzyme B	Gzmb
NM_008396	Integrin alpha 2	Itpa2
NM_010576	Integrin alpha 4	Itpa4
NM_008397	Integrin alpha 6	Itpa6
NM_008401	Integrin alpha M	Itpam
NM_021334	Integrin alpha X	Itpax
NM_008403	Integrin beta 1 binding protein 1	Ibbp1
NM_008404	Integrin beta 2	Itpb2

NM_010580	Integrin beta 5	Iigb5
NM_010581	Integrin-associated protein	Igap
NM_010494	Intercellular adhesion molecule 2	Icam2
NM_008350	Interleukin 11	Il11
NM_010612	Kinase insert domain protein receptor	Kdr
NM_008506	Matrix metalloproteinase 11	Mmp11
NM_008605	Matrix metalloproteinase 12	Mmp12
NM_008608	Matrix metalloproteinase 14 (membrane-inserted)	Mmp14
NM_008609	Matrix metalloproteinase 15	Mmp15
NM_011846	Matrix metalloproteinase 17	Mmp17
NM_008610	Matrix metalloproteinase 2	Mmp2
NM_010809	Matrix metalloproteinase 3	Mmp3
NM_008713	Nitric oxide synthase 3, endothelial cell	Nos3
NM_008756	Occludin	Ocln
NM_008877	Plasminogen	Pig
NM_008816	Platelet/endothelial cell adhesion molecule	Pecam1
NM_009929	Procollagen, type XVIII, alpha 1	Col18a1
NM_008969	Prostaglandin-endoperoxide synthase 1	Pigs1
NM_011198	Prostaglandin-endoperoxide synthase 2	Pigs2
NM_009068	Receptor (TNFRSF)-interacting serine-threonine kinase 1	Ripk1
NM_011346	Selectin, lymphocyte	Sell
NM_011347	Selectin, platelet	Selp
NM_009255	Serine (or cysteine) proteinase inhibitor, clade E, member 2	Serpine2
NM_013671	Superoxide dismutase 2, mitochondrial	Sod2
NM_011594	Tissue inhibitor of metalloproteinase 2	Timp2
NM_011595	Tissue inhibitor of metalloproteinase 3	Timp3
NM_006639	Tissue inhibitor of metalloproteinase 4	Timp4
NM_009367	Transforming growth factor, beta 2	Tgfb2
NM_013693	Tumor necrosis factor	Tnf
NM_008764	Tumor necrosis factor receptor superfamily, member 11b (osteoprotegerin)	Tnfrsf1b
NM_009395	Tumor necrosis factor, alpha-induced protein 1 (endothelial)	Triaip1
NM_011723	Xanthine dehydrogenase	Xdh

Fig 1-III-3-10 Common cytokine 遺伝子

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

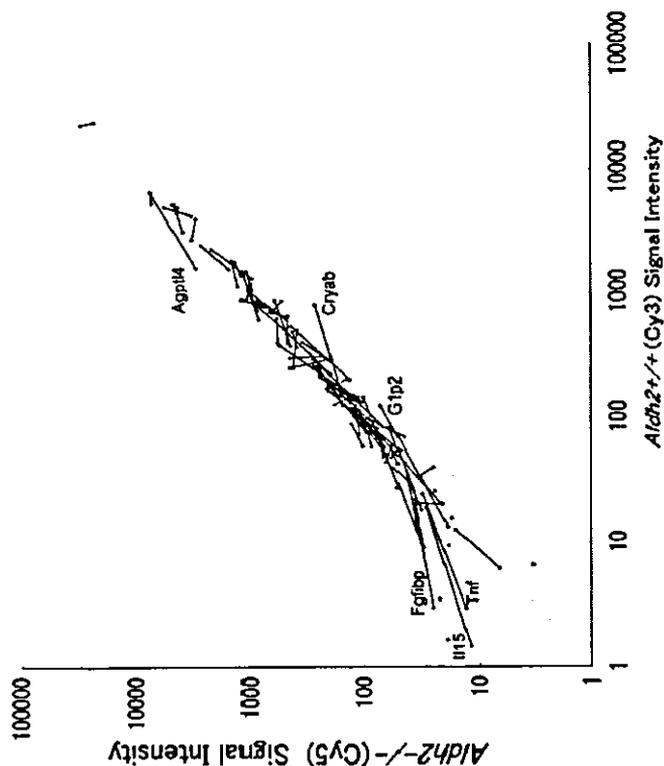


Table 1-III-3-10 Common cytokine 遺伝子

Gene Bank Accession	Description	Gene Name
NM_019467	Allograft inflammatory factor 1	Aif1
NM_009640	Angiopoietin	Angpt1
NM_020581	Angiopoietin-like 4	Angpt4
NM_007554	Bone morphogenetic protein 4	Bmp4
NM_007556	Bone morphogenetic protein 6	Bmp6
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_005971	Colony stimulating factor 3 (granulocyte)	Csf3
NM_009954	Crystallin, alpha B	Cryab
NM_030704	Crystallin, alpha C	Cryac
NM_021541	Crystallin, beta A2	Cryba2
NM_030004	Crystallin, lambda 1	Cryl1

NM_015669	Crystallin, mu	Crym
NM_010149	Erythropoietin receptor	Epor
NM_008013	Fibronogen-like protein 2	Fgf2
NM_021438	Fibroblast growth factor (acidic) intracellular binding protein	Fgfbbp
NM_010200	Fibroblast growth factor 13	Fgf13
NM_030610	Fibroblast growth factor 20	Fgf20
NM_020013	Fibroblast growth factor 21	Fgf21
NM_008008	Fibroblast growth factor 7	Fgf7
NM_008009	Fibroblast growth factor binding protein 1	Fgfbp1
NM_008015	Fibroblast growth factor inducible 14	Fin14
NM_008016	Fibroblast growth factor inducible 15	Fin15
NM_008017	Fibroblast growth factor inducible 16	Fin16
NM_010206	Fibroblast growth factor receptor 1	Fgfr1
NM_010207	Fibroblast growth factor receptor 2	Fgfr2
NM_008010	Fibroblast growth factor receptor 3	Fgfr3
NM_054071	Fibroblast growth factor receptor-like 1	Fgfrll1
NM_019447	Hepatocyte growth factor activator	Hgfac
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_008340	Insulin-like growth factor binding protein, acid labile subunit	Igfb1
NM_010508	Interferon (alpha and beta) receptor 1	Ifnar1
NM_010509	Interferon (alpha and beta) receptor 2	Ifnar2
NM_008327	Interferon activated gene 202A	Ifi202b
NM_008329	Interferon activated gene 204	Ifi204
NM_022329	Interferon alpha responsive gene, 15 kDa	Ifrg15
NM_008394	Interferon dependent positive acting transcription factor 3 gamma	Isgf3g
NM_008330	Interferon gamma inducible protein, 47 kDa	Ifi47
NM_010511	Interferon gamma receptor	Ifngr1
NM_008338	Interferon gamma receptor 2	Ifngr2
NM_008326	Interferon inducible protein 1	Ifi1
NM_008391	Interferon regulatory factor 2	Irf2
NM_016649	Interferon regulatory factor 3	Irf3
NM_019440	Interferon-g induced GTPase 2	Ilgp2
NM_030701	G protein-coupled receptor 109B	Gpr109b
NM_008331	Interferon-induced protein with tetratricopeptide repeats 1	Ifi1
NM_008332	Interferon-induced protein with tetratricopeptide repeats 2	Ifi2
NM_013562	Interferon-related developmental regulator 1	Ird1
NM_015783	Interferon-stimulated protein (15 kDa)	Isg20
NM_020583	Interferon-stimulated protein (20 kDa)	Isg20
NM_134103	Interleukin 1 receptor accessory protein	Iifrap
NM_010555	Interleukin 1 receptor, type II	Iilr2
NM_008348	Interleukin 10 receptor, beta	Iifor2
NM_016971	Interleukin 22	Ii22
NM_008350	Interleukin 11	Ii11

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_031252	Interleukin 23, alpha subunit p19	IL23a
NM_010557	Interleukin 4 receptor, alpha	IL4ra
NM_013598	Kit ligand	Kitl
NM_010736	Lymphotoxin B receptor	Ltr
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	Nfkbb
NM_008690	Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, epsilon	Nfkbe
NM_010909	Nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor-like 1	Nfkbl1
NM_011058	Platelet derived growth factor receptor, alpha polypeptide	Pdgfra
NM_008809	Platelet derived growth factor receptor, beta polypeptide	Pdgfrb
NM_008808	Platelet derived growth factor, alpha	Pdgfa
NM_011057	Platelet derived growth factor, B polypeptide	Pdgfb
NM_031868	Protein phosphatase 1, catalytic subunit, alpha isoform	Ppp1ca
NM_009379	Thrombopoietin	Tpo
NM_031199	Transforming growth factor alpha	Tgfa
NM_009367	Transforming growth factor, beta 2	Tgfb2
NM_009368	Transforming growth factor, beta 3	Tgfb3
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_028075	Tumor necrosis factor receptor superfamily, member 13c	Tnfrsf13c
NM_011608	Tumor necrosis factor receptor superfamily, member 17	Tnfrsf17
NM_013869	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	Tnfrsf4
NM_009395	Tumor necrosis factor, alpha-induced protein 1 (endothelial)	Tnfrsf1
NM_009505	Vascular endothelial growth factor A	Vegfa
NM_011697	Vascular endothelial growth factor B	Vegfb
NM_009506	Vascular endothelial growth factor C	Vegfc

Fig 1-III-3-11 Inflammatory Cytokines & Receptors 遺伝子
Scatter Plot (direct) Aldh2 genotype 曝露前後比較

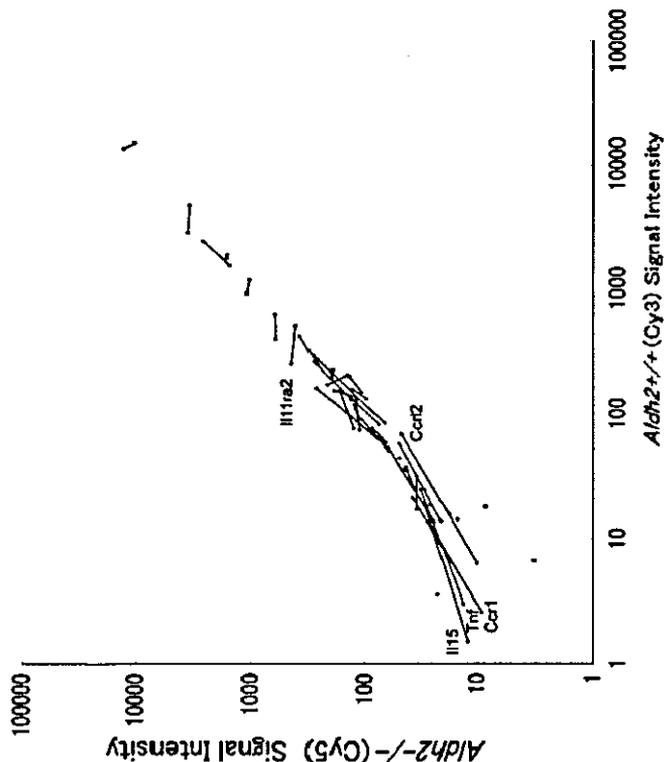


Table 1-III-3-11 Inflammatory Cytokines & Receptors 遺伝子

Gene Bank Accession	Description	Gene Name
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_009912	Chemokine (C-C motif) receptor 1	Ccr1
NM_009916	Chemokine (C-C motif) receptor 4	Ccr4
NM_009913	Chemokine (C-C motif) receptor 9	Ccr9

NM_017466	Chemokine (C-C motif) receptor-like 2	Cxcl13
NM_009914	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_008599	Chemokine (C-X-C motif) ligand 9	Cxcl9
NM_009910	Chemokine (C-X-C motif) receptor 3	Cxcr3
NM_030712	Chemokine (C-X-C motif) receptor 6	Cxcr6
NM_134103	Interleukin 1 receptor accessory protein	Il1rap
NM_010555	Interleukin 1 receptor, type II	Il1r2
NM_008349	Interleukin 10 receptor, beta	Il10rb
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_010736	Lymphotoxin B receptor	Ltbr
NM_010798	Macrophage migration inhibitory factor	Mif
NM_009143	Stromal cell derived factor 2	Sdf2
NM_031199	Transforming growth factor, alpha	Tgfa
NM_009367	Transforming growth factor, beta 2	Tgfb2
NM_009368	Transforming growth factor, beta 3	Tgfb3
NM_013693	Tumor necrosis factor	Tnf
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

Fig 1-III-3-12 Th1-Th2-Th3 関連遺伝子

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

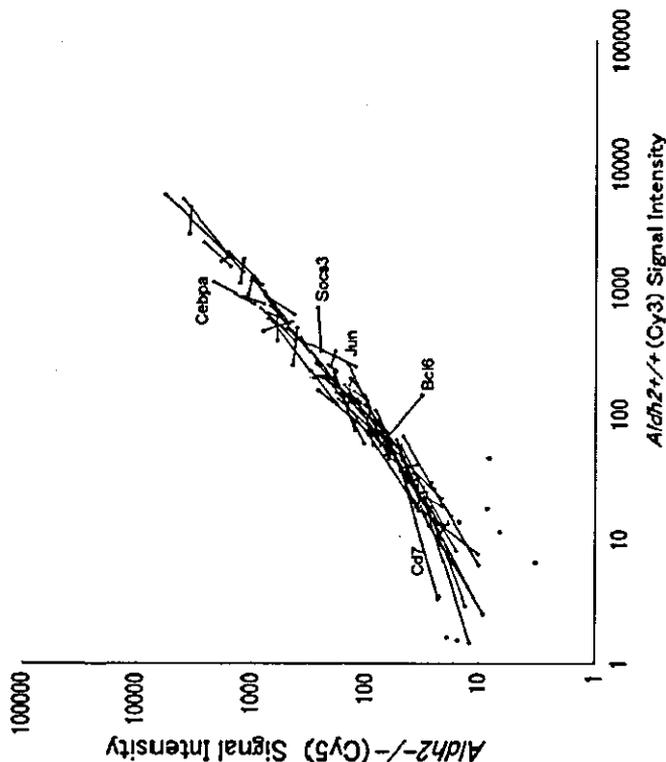


Table 1-III-3-12 Th1-Th2-Th3 関連遺伝子

Gene Bank Accession	Description	Gene Name
NM_009740	B-cell leukemia/lymphoma 10	Bcl10
NM_009741	B-cell leukemia/lymphoma 2	Bcl2
NM_009744	B-cell leukemia/lymphoma 6	Bcl6
NM_021599	B-cell lymphoma/leukemia 11B	Bcl11b
NM_007530	B-cell receptor-associated protein 29	Bcap29
NM_012060	B-cell receptor-associated protein 31	Bcap31
NM_007531	B-cell receptor-associated protein 37	Bcap37
NM_007678	CCAAT/enhancer binding protein (C/EBP), alpha	Cebpa
NM_009841	CD14 antigen	Cd14
NM_053094	CD163 antigen	Cd163
NM_016898	CD163 antigen	Cd164
NM_007640	CD102 antigen	Cd102
NM_027353	CD2 antigen (cytoplasmic tail) binding protein 2	Cd2bp2

NM_026972	CD209b antigen	Cd209b
NM_009846	CD24a antigen	Cd24a
NM_013929	Cd27 binding protein (Hindu God of destruction)	Siva
NM_007648	CD3 antigen, epsilon polypeptide	Cd3e
NM_031162	CD3 antigen, zeta polypeptide	Cd3z
NM_007643	CD36 antigen	Cd36
NM_013706	CD52 antigen	Cd52
NM_007652	CD59a antigen	Cd59a
NM_009852	CD6 antigen	Cd6
NM_009853	CD68 antigen	Cd7
NM_009854	CD7 antigen	Cd79b
NM_008339	CD79B antigen	Cd83
NM_009856	CD83 antigen	Cd8b
NM_007657	CD9 antigen	Cd9
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_009912	Chemokine (C-C motif) receptor 1	Ccr1
NM_009916	Chemokine (C-C motif) receptor 4	Ccr4
NM_009913	Chemokine (C-C motif) receptor 9	Ccr9
NM_017466	Chemokine (C-C motif) receptor-like 2	Ccr12
NM_009914	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_008599	Chemokine (C-X-C motif) ligand 9	Cxcl9
NM_009910	Chemokine (C-X-C motif) receptor 3	Cxcr3
NM_000712	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)	Cs2rb1
NM_007781	Colony stimulating factor 2 receptor, beta 2, low-affinity (granulocyte-macrophage)	Cs2rb2
NM_009971	Colony stimulating factor 3 (granulocyte)	Csf3
NM_011585	Cytotoxic T lymphocyte-associated RNA binding protein 1	Tai1
NM_007796	Cytotoxic T lymphocyte-associated protein 2 alpha	Ctla2a
NM_007948	Excision repair cross-complementing rodent repair deficiency, complementation group 1	Ercc1
NM_015769	Excision repair cross-complementing rodent repair deficiency, complementation group 4	Ercc4

	Excision repair cross-complementing rodent repair deficiency, complementation group 5	Ercc5
NM_011729	Fos-like antigen 2	Fos
NM_010234	FBJ osteosarcoma oncogene	Fos2
NM_008037	G protein-coupled receptor 19	Gpr19
NM_008157	G protein-coupled receptor 49	Gpr49
NM_010195	G protein-coupled receptor 56	Gpr56
NM_018882	G protein-coupled receptor 83	Gpr83
NM_010287	G protein-coupled receptor 80	Gpr80
NM_030726	GATA binding protein 2	Gata2
NM_008090	GATA binding protein 3	Gata3
NM_008091	GATA binding protein 5	Gata5
NM_008093	Immunoglobulin superfamily, member 4	Igaf4a
NM_018770	Interferon regulatory factor 2	Irf2
NM_008391	Interferon regulatory factor 3	Irf3
NM_016849	Interleukin 1 receptor accessory protein	Ilt1rap
NM_134103	Interleukin 1 receptor, type II	Ilt1r2
NM_010555	Interleukin 10 receptor, beta	Ilt1r2
NM_008349	Interleukin 11	Ilt1r1
NM_008350	Interleukin 11 receptor, alpha chain 1	Ilt1ra1
NM_010549	Interleukin 11 receptor, alpha chain 2	Ilt1ra2
NM_010550	Interleukin 15	Ilt1r5
NM_008357	Interleukin 17 receptor	Ilt1r7
NM_008359	Interleukin 18 binding protein	Ilt1rbp
NM_010531	Interleukin 21 receptor	Ilt21r
NM_021887	Interleukin 22	Ilt22
NM_016971	Interleukin 23, alpha subunit p19	Ilt23a
NM_031252	Interleukin 4 receptor, alpha	Ilt4ra
NM_010557	Interleukin enhancer binding factor 3	Ilt3
NM_010561	Janus kinase 2	Jak2
NM_008413	Jun oncogene	Jun
NM_010591	Linker of T-cell receptor pathways	Lnk
NM_008507	Mitogen activated protein kinase 10	Mapk10
NM_009158	Mitogen activated protein kinase 14	Mapk14
NM_011951	Mitogen activated protein kinase 8	Mapk8
NM_016700	Mitogen activated protein kinase 9	Mapk9
NM_016961	Mitogen activated protein kinase binding protein 1	Mapkbp1
NM_011941	Mitogen activated protein kinase kinase 1	Map2k1
NM_008927	Mitogen activated protein kinase kinase 5	Map2k5
NM_011840	Mitogen activated protein kinase kinase 12	Map3k12
NM_009582	Mitogen activated protein kinase kinase 4	Map3k4
NM_011948	Mitogen activated protein kinase kinase 5	Map3k5
NM_008580	Mitogen activated protein kinase kinase 2	Map4k2
NM_009006	Mitogen-activated protein kinase 7	Mapk7
NM_011841	Mitogen-activated protein kinase 8 interacting protein 2	Map8ip2
NM_021921	Mitogen-activated protein kinase 8 interacting protein 3	Map8ip3
NM_013931	Mitogen-activated protein kinase 1 interacting protein 1	Map2k1ip1
NM_019920	Mitogen-activated protein kinase 1 interacting protein 1	Map2k1ip1

NM_016896	Mitogen-activated protein kinase kinase 14	Map3k14
NM_016713	Mitogen-activated protein kinase kinase kinase 6	Map4k6
NM_011210	Protein tyrosine phosphatase, receptor type, C	Ptprc
NM_009762	SET and MYND domain containing 1	Smyd1
NM_019963	Signal transducer and activator of transcription 2	Stat2
NM_011487	Signal transducer and activator of transcription 4	Stat4
NM_011489	Signal transducer and activator of transcription 5B	Stat5b
NM_007706	Suppressor of cytokine signaling 2	Socs2
NM_007707	Suppressor of cytokine signaling 3	Socs3
NM_019654	Suppressor of cytokine signaling 5	Socs5
NM_019507	T-box 21	Tbx21
NM_009368	Transforming growth factor, beta 3	Tgfb3
NM_013693	Tumor necrosis factor	Tnf
NM_052975	Tumor necrosis factor receptor superfamily, member 21	Tnfrsf21
NM_011659	Tumor necrosis factor receptor superfamily, member 4	Tnfrsf4
NM_018793	Tyrosine kinase 2	Tyk2

Fig 1-III-3-13 Dehydrogenase 酵素遺伝子

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

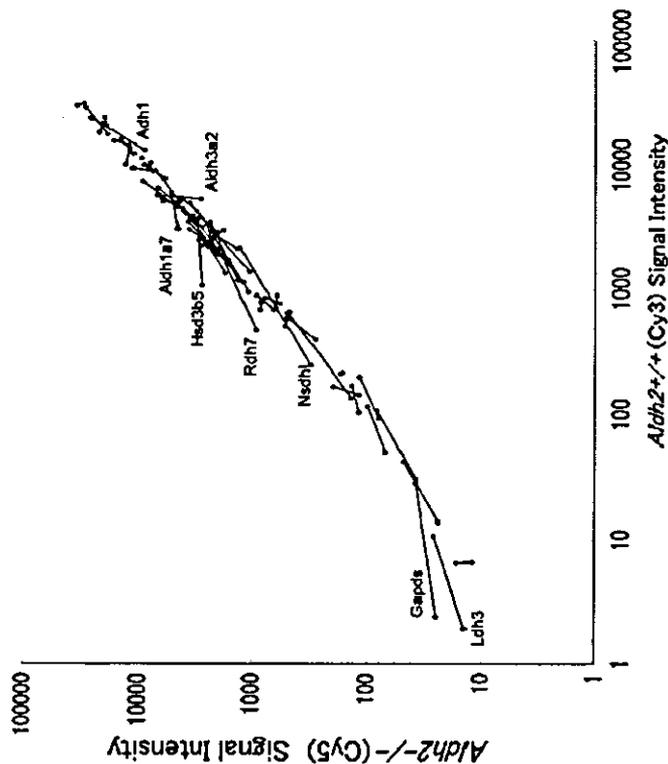


Table 1-III-3-13 Dehydrogenase 酵素遺伝子

GeneBank 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_025826	Acetyl-Coenzyme A dehydrogenase, short/branched chain	Acadsb
NM_025337	Aldehyde reductase family 7, member A5 (aristoloxin aldehyde reductase)	Ak7a5
NM_007409	Alcohol dehydrogenase 1 (class I)	Adh1
NM_011996	Alcohol dehydrogenase 4 (class III), cIII polypeptide	Adh4
NM_007410	Alcohol dehydrogenase 5 (class III), cIII polypeptide	Adh5
NM_019993	Aldehyde dehydrogenase 9, subfamily A1	Adh9a1
NM_013487	Aldehyde dehydrogenase family 1, subfamily A1	Alah1a1
NM_009022	Aldehyde dehydrogenase family 1, subfamily A2	Alah1a2
NM_053060	Aldehyde dehydrogenase family 1, subfamily A3	Alah1a3
NM_011921	Aldehyde dehydrogenase family 1, subfamily A7	Alah1a7

NM_007437	Aldehyde dehydrogenase family 3, subfamily A2	Aldh3a2
NM_019577	Aldehyde reductase (aldose reductase)-like 6	Aldr6
NM_021473	Aldo-keto reductase family 1, member A4 (aldehyde reductase)	Akr1a4
NM_007533	Branched chain ketacid dehydrogenase E1, alpha polypeptide	Bckdha
NM_009739	Branched chain ketacid dehydrogenase kinase	Bckdhk
NM_007861	Dihydropyrimidine dehydrogenase	Dld
NM_020046	Dihydroorotate dehydrogenase	Dhodh
NM_008062	Glucose-6-phosphate dehydrogenase X-linked	G6pdx
NM_008133	Glutamate dehydrogenase	Glud1
NM_008097	Glutaryl-Coenzyme A dehydrogenase	Gdh
NM_008085	Glyceroldehyde-3-phosphate dehydrogenase, spermatozoan	Gspds
NM_010271	Glycerol phosphate dehydrogenase 1, cytoplasmic adult	Gpd1
NM_016763	Hydroxyacyl-Coenzyme A dehydrogenase type II	Hadh2
NM_008278	Hydroxyprostaglandin dehydrogenase 15 (NAD)	Hpgd
NM_019657	Hydroxysteroid (17-beta) dehydrogenase 12	Hsd17b12
NM_008291	Hydroxysteroid (17-beta) dehydrogenase 3	Hsd17b3
NM_010476	Hydroxysteroid (17-beta) dehydrogenase 7	Hsd17b7
NM_008288	Hydroxysteroid 11-beta dehydrogenase 1	Hsd11b1
NM_008293	Hydroxysteroid dehydrogenase-1, delta<5>-<3>-beta	Hsd3b1
NM_008295	Hydroxysteroid dehydrogenase-5, delta<5>-<3>-beta	Hsd3b5
NM_011830	Inosine 5'-phosphate dehydrogenase 2	Impdh2
NM_010497	Isocitrate dehydrogenase 1 (NADP+), soluble	Icdh1
NM_008322	Isocitrate dehydrogenase 2 (NADP+), mitochondrial	Icdh2
NM_008323	Isocitrate dehydrogenase 3 (NAD+), gamma	Icdh3g
NM_029573	Isocitrate dehydrogenase 3 (NAD+) alpha	Icdh3a
NM_019826	Isovaleryl coenzyme A dehydrogenase	Ivd
NM_008212	L-3-hydroxyacyl-Coenzyme A dehydrogenase, short chain	Hadhsc
NM_010699	Lactate dehydrogenase 1, A chain	Ldh1
NM_008492	Lactate dehydrogenase 2, B chain	Ldh2
NM_013580	Lactate dehydrogenase 3, C chain, sperm specific	Ldh3
NM_013930	aminoacidipate-semialdehyde synthase	Aass
NM_008618	Malate dehydrogenase, soluble	Mdh1
NM_008638	Methylenetetrahydrofolate dehydrogenase (NAD+ dependent), methylenetetrahydrofolate cyclohydrolase	Mthfd2
NM_138745	Methylenetetrahydrofolate dehydrogenase (NADP+ dependent), methylenetetrahydrofolate cyclohydrolase, formyltetrahydrofolate synthase	Mthfd1
NM_010941	NAD(P) dependent steroid dehydrogenase-like	Nsdh1
NM_008708	NAD(P)H dehydrogenase, quinone 1	Nqo1
NM_025523	NADH dehydrogenase (ubiquinone) 1, subcomplex unknown, 1	Ndufc1
NM_019443	NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 1	Ndufa1
NM_010885	NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 2	Ndufa2
NM_025987	NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, B (14kD, B14)	Ndufa6
NM_023202	NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 7 (14.5kD, B14.5a)	Ndufa7
NM_025316	NADH dehydrogenase (ubiquinone) 1 beta subcomplex, 5	Ndufb5
NM_010887	NADH dehydrogenase (ubiquinone) Fe-S protein 4	Ndufs4
NM_011172	Proline dehydrogenase	Prodh
NM_019548	Proline dehydrogenase (oxidase) 2	Prodh2

NM_024221	Pyruvate dehydrogenase (lipoamide) beta	Pdhb
NM_013743	Pyruvate dehydrogenase kinase, isoenzyme 4	Pdk4
NM_011303	Dehydrogenase/reductase (SDR family) member 3	Dhrs3
NM_017473	Retinol dehydrogenase 7	Rdh7
NM_009466	UDP-glucose dehydrogenase	Ugdh
NM_011723	Xanthine dehydrogenase	Xdh

Fig 1-III-3-14 Metal Transport と Homeostasis に関連する遺伝子

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

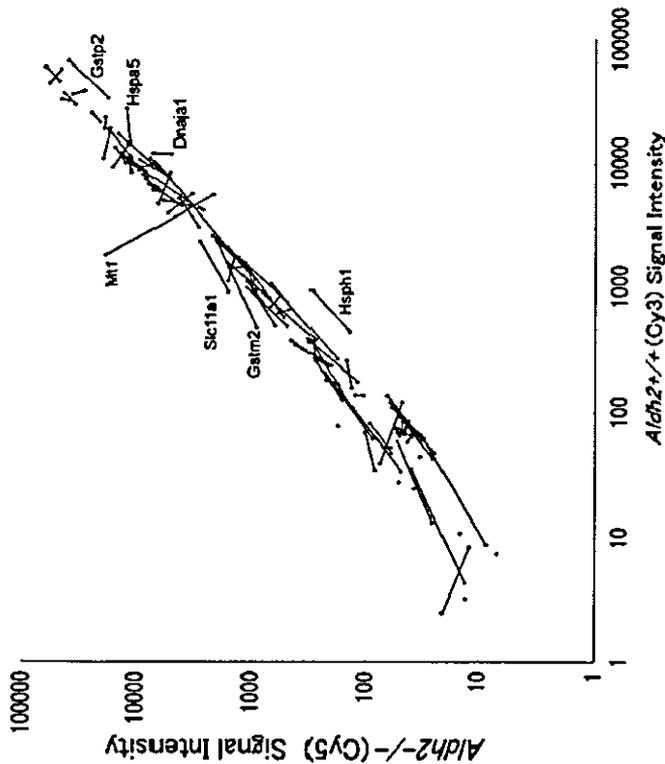


Table 1-III-3-14 Metal Transport と Homeostasis に関連する遺伝子

GeneBank Accession	Description	Gene Name
NM_007511	ATPase, Cu ⁺⁺ transporting, beta polypeptide	Atp7b
NM_019552	ATP-binding cassette, sub-family B (MDR/TAP), member 10	Abcb10
NM_009720	ATX1 (antioxidant protein 1) homolog 1 (yeast)	Atox1
NM_009735	Beta-2 microglobulin	B2m
NM_007591	Calreticulin	Calr
NM_009804	Calnexin	Cnx
NM_053094	CD163 antigen	Cd163
NM_007752	Ceruloplasmin	Cp
NM_010050	Ce100, ceroid lipofuscinosis, type II	Ce100
NM_008298	Dnaj (Hsp40) homolog, subfamily A, member 1	Dnaj1
NM_007913	Early growth response 1	Egr1
NM_010239	Ferritin heavy chain	Fth1
NM_026286	Ferritin heavy chain 3	Fth3

NM_010240	Ferritin light chain 1	Fth1
NM_007998	Ferrochelatase	Fech
NM_008030	Flavin containing monooxygenase 3	Fmo3
NM_008044	Friedreich ataxia	Frd
NM_008160	Glutathione peroxidase 1	Gpx1
NM_008077	Glutathione peroxidase 2	Gpx2
NM_008161	Glutathione peroxidase 3	Gpx3
NM_008162	Glutathione peroxidase 4	Gpx4
NM_010344	Glutathione reductase 1	Gsr
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_008086	Growth arrest specific 1	Gas1
NM_008303	Heat shock 10 kDa protein 1 (chaperonin 10)	Hsp1
NM_022310	Heat shock 70kD protein 5 (glucose-regulated protein, 78kD)	Hspa5
NM_013559	Heat shock protein, 105 kDa	Hsp1
NM_010442	Heme oxygenase (decycling) 1	Hmox1
NM_010443	Heme oxygenase (decycling) 2	Hmox2
NM_010424	Hemochromatosis	Hfe
NM_008220	Hemoglobin, beta adult major chain	Hbb-b1
NM_016956	Hemoglobin, beta adult minor chain	Hbb-b2
NM_032541	Hepcidin antimicrobial peptide	Hamp
NM_016786	Huntingtin interacting protein 2	Hip2
NM_010404	Huntingtin-associated protein 1	hip1
NM_010431	Hypoxia inducible factor 1, alpha subunit	Hif1a
NM_006522	Lactoferrin	Lf
NM_013602	Metallothionein 1	Mt1
NM_010641	Metallothionein-like 5, testis-specific (testin)	Mt5
NM_011638	Transferrin receptor (Tfr)	Tfr
NM_015799	Transferrin receptor 2 (Tfr2)	Tfr2
NM_008712	Nitric oxide synthase 1, neuronal	Nos1
NM_008998	P450 (cytochrome) oxidoreductase	Por
NM_011034	Peroxisome oxidoreductin 1	Pox1
NM_011563	Peroxisome oxidoreductin 2	Pox2
NM_007452	Peroxisome oxidoreductin 3	Pox3
NM_016764	Peroxisome oxidoreductin 4	Pox4
NM_012021	Peroxisome oxidoreductin 5	Pox5
NM_009266	Selenophosphate synthetase 2	Seps2
NM_009155	Selenoprotein P, plasma, 1	Sepp1
NM_013759	Selenoprotein R	Sepr
NM_009156	Selenoprotein W, muscle 1	Seppw1
NM_053196	Sideroflexin 2	Sfxn2
NM_053197	Sideroflexin 3	Sfxn3

NM_053198	Sideroflexin 4	Sfxr4
NM_013612	Solute carrier family 11 (proton-coupled divalent metal ion transporters), member 1	Slc11a1
NM_008732	Solute carrier family 11 (proton-coupled divalent metal ion transporters), member 2	Slc11a2
NM_011773	Solute carrier family 30 (zinc transporter), member 3	Slc30a3
NM_022885	Solute carrier family 30 (zinc transporter), member 5	Slc30a5
NM_025286	Solute carrier family 31, member 2	Slc31a2
NM_016917	Solute carrier family 39 (iron-regulated transporter), member 1	Slc39a1
NM_013671	Superoxide dismutase 2, mitochondrial	Sod2
NM_015762	T	Txnrd1
NM_013711	Thioredoxin reductase 2	Txnrd2
NM_021297	Toll-like receptor 4	Tlr4
NM_009377	Tyrosine hydroxylase	Th
NM_009461	Ubiquitin protein ligase E3 component n-recognin 1	Ubr1
NM_009505	Vascular endothelial growth factor A	Vegfa
NM_011697	Vascular endothelial growth factor B	Vegfb
NM_009506	Vascular endothelial growth factor C	Vegfc

Fig 1-III-3-15 Ubiquitin 関連遺伝子

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

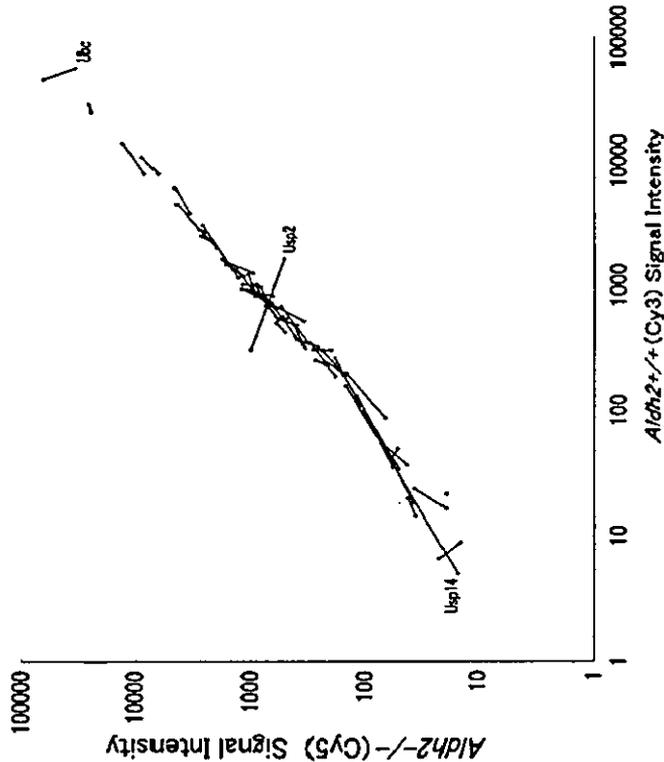


Table 1-III-3-15 Ubiquitin 関連遺伝子

Gene Bank Accession	Description	Gene name
NM_022331	Homocysteine-inducible, endoplasmic reticulum stress-inducible, ubiquitin-like domain member 1	Herpud1
NM_009460	SMT3 suppressor of mit two 3 homolog 1 (yeast)	Sumo1
NM_011432	U1 small nuclear ribonucleoprotein 1C	Snrp1c
NM_011663	U2 small nuclear ribonucleoprotein auxiliary factor (U2AF), 35 kDa, related sequence 1	U2af1-rs1
NM_009453	U2 small nuclear ribonucleoprotein auxiliary factor (U2AF), 35 kDa, related sequence 2	U2af1-rs2
NM_024187	U2 small nuclear ribonucleoprotein auxiliary factor (U2AF), 35 kDa	U2af1
NM_026842	Ubiquitin 1	Ubqln1
NM_018798	Ubiquitin 2	Ubqln2
NM_033526	Ubiquitin 4	Ubqln4
NM_025407	Ubiquinol-cytochrome c reductase core protein 1	Uqcrc1

NM_011664	Ubiquitin B	Ubb
NM_019639	Ubiquitin C	Ubc
NM_016723	Ubiquitin carboxyl-terminal esterase L3 (ubiquitin thiolesterase)	Uch3
NM_019562	Ubiquitin carboxyl-terminal esterase L5	Uch5
NM_011670	Ubiquitin carboxyl-terminal hydrolase L1	Uch1
NM_019705	Ubiquitin conjugating enzyme 7 interacting protein 3	Ube7ip3
NM_060563	Ubiquitin conjugating enzyme 7 interacting protein 4	Ube7ip4
NM_011672	Ubiquitin fusion degradation 1 like	Ufd1l
NM_009461	Ubiquitin protein ligase E3 component n-recognin 1	Ubr1
NM_009462	Ubiquitin specific protease 10	Usp10
NM_021622	Ubiquitin specific protease 14	Usp14
NM_024258	Ubiquitin specific protease 16	Usp16
NM_011909	Ubiquitin specific protease 18	Usp18
NM_016808	Ubiquitin specific protease 2	Usp2
NM_013919	Ubiquitin specific protease 21	Usp21
NM_013918	Ubiquitin specific protease 25	Usp25
NM_031388	Ubiquitin specific protease 26	Usp26
NM_021323	Ubiquitin specific protease 29	Usp29
NM_011678	Ubiquitin specific protease 4 (proto-oncogene)	Usp4
NM_013700	Ubiquitin specific protease 5 (isopeptidase T)	Usp5
NM_009481	Ubiquitin specific protease 9, X chromosome	Usp9
NM_009457	Ubiquitin-activating enzyme E1, Chr X	Ube1x
NM_011666	Ubiquitin-activating enzyme E1C	Ube1c
NM_023305	Ubiquitin-associated protein 1	Uba1
NM_022022	Ubiquitination factor E4B, UFD2 homolog (S. cerevisiae)	Ube4b
NM_023585	Ubiquitin-conjugating enzyme E2 variant 2	Ube2v2
NM_021402	Ubiquitin-conjugating enzyme E2, J2 homolog (yeast)	Ube2j2
NM_019668	Ubiquitin-conjugating enzyme E2A, RAD6 homolog (S. cerevisiae)	Ube2a
NM_009458	Ubiquitin-conjugating enzyme E2B, RAD6 homolog (S. cerevisiae)	Ube2b
NM_019912	Ubiquitin-conjugating enzyme E2D 2	Ube2d2
NM_009455	Ubiquitin-conjugating enzyme E2E 1, UBC4/5 homolog (yeast)	Ube2e1
NM_009459	Ubiquitin-conjugating enzyme E2H	Ube2h
NM_011665	Ubiquitin-conjugating enzyme E2I	Ube2i
NM_009456	Ubiquitin-conjugating enzyme E2L 3	Ube2l3
NM_019949	Ubiquitin-conjugating enzyme E2L 6	Ube2l6
NM_060560	Ubiquitin-conjugating enzyme E2N	Ube2n
NM_016662	Ubiquitin-like 1 (scavrin) activating enzyme E1B	Ube1b
NM_011908	Ubiquitin-like 3	Ubi3
NM_025401	Ubiquitin-like 5	Ubi5

Fig 1-III-3-16 CardioVascularDisease に関連する Biomarker 遺伝子

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

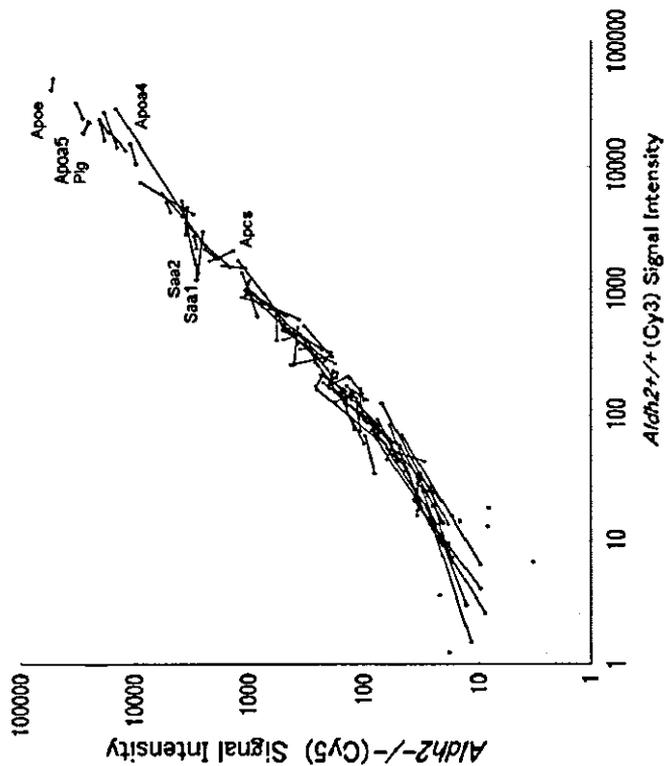


Table 1-III-3-16 CardioVascularDisease に関連する Biomarker 遺伝子

Gene Bank Accession	Description	Gene Name
NM_007468	Apolipoprotein A-IV	ApoA4
NM_000434	Apolipoprotein A-V	ApoA5
NM_006695	Apolipoprotein C-II	ApoC2
NM_023114	Apolipoprotein C-III	ApoC3
NM_007385	Apolipoprotein C-IV	ApoC4
NM_007470	Apolipoprotein D	ApoD
NM_008998	Apolipoprotein E	ApoE
NM_013475	Apolipoprotein H	ApoH
NM_018816	Apolipoprotein M	ApoM
NM_010581	CD47 antigen (Rh-related antigen, integrin-associated signal transducer)	CD47
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_009912	Chemokine (C-C motif) receptor 1	Ccr1
NM_009916	Chemokine (C-C motif) receptor 4	Ccr4
NM_009913	Chemokine (C-C motif) receptor 9	Ccr9
NM_017466	Chemokine (C-C motif) receptor-like 2	Ccr2l
NM_009914	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_011338	Chemokine (C-X-C motif) ligand 15	Cxcl15
NM_008599	Chemokine (C-X-C motif) ligand 9	Cxcl9
NM_008910	Chemokine (C-X-C motif) receptor 3	Cxcr3
NM_030712	Chemokine (C-X-C motif) receptor 6	Cxcr6
NM_010168	Coagulation factor II	F2
NM_010169	Coagulation factor II (thrombin) receptor	F2r
NM_010170	Coagulation factor II (thrombin) receptor-like 2	F2rl2
NM_007976	Coagulation factor V	F5
NM_010172	Coagulation factor VII	F7
NM_007972	Coagulation factor X	F10
NM_021489	Coagulation factor XII (Hageman factor)	F12
NM_031164	Coagulation factor XIII, beta subunit	F13b
NM_007768	C-reactive protein, peltaxin related	Crp
NM_009897	Creatine kinase, mitochondrial 1, ubiquitous	Ckm1t
NM_018776	Cytokine receptor-like factor 3	Crif3
NM_008013	Fibrinogen-like protein 2	Fgl2
NM_030701	G protein-coupled receptor 109B	Gpr109b
NM_009149	Golgi apparatus protein 1	Selel
NM_010442	Heme oxygenase (decycling) 1	Hmox1
NM_010443	Heme oxygenase (decycling) 2	Hmox2
NM_008396	Integrin alpha 2	Iiga2
NM_010578	Integrin alpha 4	Iiga4
NM_008397	Integrin alpha 6	Iiga6
NM_008401	Integrin alpha M	Iigam
NM_021334	Integrin alpha X	Iigax
NM_008403	Integrin beta 1 binding protein 1	Igfbp1
NM_008404	Integrin beta 2	Igfb2
NM_010580	Integrin beta 5	Igfb5
NM_010494	Intercellular adhesion molecule 2	Icam2
NM_010508	Interferon (alpha and beta) receptor 1	Infar1
NM_010509	Interferon (alpha and beta) receptor 2	Infar2

NM_008327	Interferon activated gene 202A	Ifi202a
NM_008329	Interferon activated gene204	Ifi204
NM_023299	Interferon alpha responsive gene, 15 kDa	Ifi15
NM_008394	Interferon dependent positive acting transcription factor 3 gamma	Isg3g
NM_008330	Interferon gamma inducible protein, 47 kDa	Ifi47
NM_010511	Interferon gamma receptor	Ifngr1
NM_008338	Interferon gamma receptor2	Ifngr2
NM_019440	Interferon inducible GTPase 2	Ilgp2
NM_008328	Interferon inducible protein 1	Ifi1
NM_008391	Interferon regulatory factor 2	Irf2
NM_016849	Interferon regulatory factor 3	Irf3
NM_015783	Interferon, alpha-inducible protein	G1p2
NM_008331	Interferon-induced protein with tetrapeptide repeats 1	Ifi1
NM_008332	Interferon-induced protein with tetrapeptide repeats 2	Ifi2
NM_020583	Interferon-stimulated protein (20 kDa)	Isg20
NM_134103	Interleukin 1 receptor accessory protein	Ili1rap
NM_010555	Interleukin 1 receptor, type II	Ili1r2
NM_008349	Interleukin 10 receptor, beta	Ili10b
NM_008350	Interleukin 11	Ili11
NM_010549	Interleukin 11 receptor, alpha chain 1	Ili11ra1
NM_010550	Interleukin 11 receptor, alpha chain 2	Ili11ra2
NM_008357	Interleukin 15	Ili15
NM_008359	Interleukin 17 receptor	Ili17r
NM_010531	Interleukin 18 binding protein	Ili18bp
NM_021887	Interleukin 21 receptor	Ili21r
NM_016971	Interleukin 22	Ili22
NM_031252	Interleukin 23, alpha subunit p19	Ili23a
NM_010557	Interleukin 4 receptor, alpha	Ili4ra
NM_010561	Interleukin enhancer binding factor 3	Ili3
NM_010738	Lymphotoxin B receptor	Llbr
NM_008606	Matrix metalloproteinase 11	Mmp11
NM_008605	Matrix metalloproteinase 12	Mmp12
NM_008608	Matrix metalloproteinase 14 (membrane-inserted)	Mmp14
NM_008609	Matrix metalloproteinase 15	Mmp15
NM_011846	Matrix metalloproteinase 17	Mmp17
NM_008610	Matrix metalloproteinase 2	Mmp2
NM_010509	Matrix metalloproteinase 3	Mmp3
NM_008726	Neuronal cell adhesion molecule 1 precursor type B	Ncam1
NM_008712	Nitric oxide synthase 1, neuronal	Nos1
NM_008713	Nitric oxide synthase 3, endothelial cell	Nos3
NM_011146	Peroxisome proliferator activated receptor gamma	Pparg
NM_013327	Phospholipase A2 group VII (platelet-activating factor acetylhydrolase, plasma)	Pla2g7
NM_008877	Plasminogen	Plg
NM_008818	Platelet/endothelial cell adhesion molecule	Pecam1
NM_011346	Selectin, lymphocyte	Sell
NM_011347	Selectin, platelet	Selp

NM_009117	Serum amyloid A 1	Saa1
NM_011314	Serum amyloid A 2	Saa2
NM_011315	Serum amyloid A 3	Saa3
NM_011316	Serum amyloid A 4	Saa4
NM_011318	Serum amyloid P-component	Apcs
NM_011594	Tissue inhibitor of metalloproteinase 2	Timp2
NM_011595	Tissue inhibitor of metalloproteinase 3	Timp3
NM_008639	Tissue inhibitor of metalloproteinase 4	Timp4
NM_009393	Troponin C, cardiac/slow skeletal	Tnnc
NM_009408	Troponin I, cardiac	Tnnc1
NM_011618	Troponin T2, cardiac	Tnnc2
NM_013893	Tumor necrosis factor	Tnfr
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_028075	Tumor necrosis factor receptor superfamily, member 13c	Tnfrsf13c
NM_011608	Tumor necrosis factor receptor superfamily, member 17	Tnfrsf17
NM_013889	Tumor necrosis factor receptor superfamily, member 19	Tnfrsf19
NM_032975	Tumor necrosis factor receptor superfamily, member 21	Tnfrsf21
NM_011659	Tumor necrosis factor receptor superfamily, member 4	Tnfrsf4
NM_009395	Tumor necrosis factor receptor superfamily, member 4	Tnfrsf4
NM_011693	Vascular cell adhesion molecule 1	Vcam1

Fig 1-III-3-17 Diabetes に関連する遺伝子

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

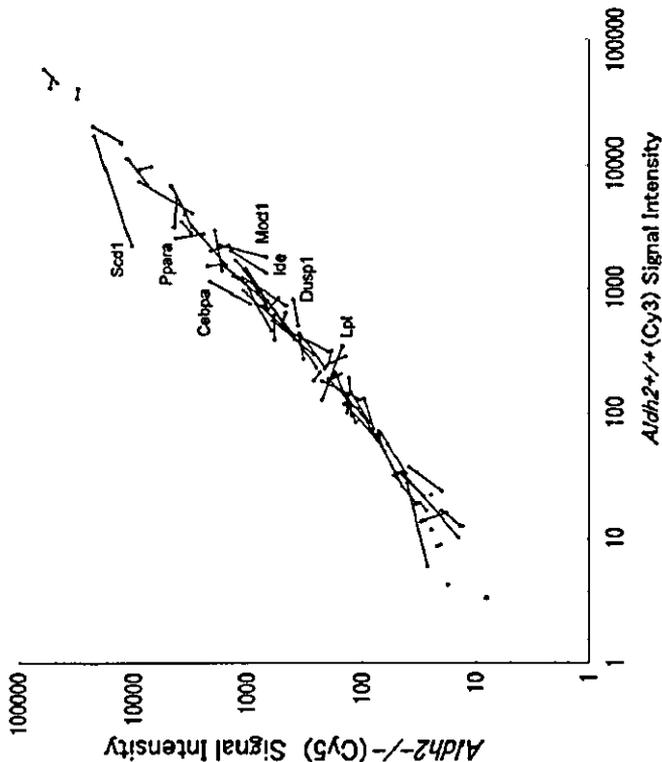


Table 1-III-3-17 Diabetes に関連する遺伝子

Gene Bank Accession	Description	Gene Name
NM_007415	ADP-ribosyltransferase (NAD ⁺ -poly (ADP-ribose) polymerase) 1	Adprt1
NM_007428	Angiotensinogen	Agt
NM_009696	Apolipoprotein E	ApoE
NM_009465	AXL receptor tyrosine kinase	Axl
NM_009741	B-cell leukemia/lymphoma 2	Bcl2
NM_009735	Beta-2 microglobulin	B2m
NM_007678	C/CAAATranscancer binding protein (C/EBP), alpha	Cebpa
NM_007768	C-reactive protein, peltaxin related	Crp
NM_013642	Dual specificity phosphatase 1	Dusp1
NM_013849	Dual specificity phosphatase 13	Dusp13
NM_019819	Dual specificity phosphatase 14	Dusp14
NM_130447	Dual specificity phosphatase 16	Dusp16
NM_024438	Dual specificity phosphatase 19	Dusp19
NM_026268	Dual specificity phosphatase 6	Dusp6

NM_015744	Ectonucleotide pyrophosphatase/phosphodiesterase 2	Enpp2
NM_032003	Ectonucleotide pyrophosphatase/phosphodiesterase 5	Enpp5
NM_010446	Forkhead box A2	Foxa2
NM_008260	Forkhead box A3	Foxa3
NM_013519	Forkhead box C2	Foxc2
NM_010426	Forkhead box F1a	Foxf1a
NM_008241	Forkhead box G1	Foxg1
NM_008021	Forkhead box M1	Foxm1
NM_053202	Forkhead box P1	Foxp1
NM_019395	Fructose biphosphatase 1	Fbp1
NM_008101	Glucagon receptor	Gcgr
NM_021332	Glucagon-like peptide 1 receptor	Gplr1
NM_010292	Glycokinase	Gck
NM_010271	Glycerol phosphate dehydrogenase 1, cytoplasmic adult	Gpd1
NM_019827	Glycogen synthase kinase 3 beta	Gsk3b
NM_013755	Glycogenin 1	Gygi
NM_010442	Heme oxygenase (decycling) 1	Hmox1
NM_010443	Heme oxygenase (decycling) 2	Hmox2
NM_008261	Hepatic nuclear factor 4	Hnf4
NM_010381	Histocompatibility 2, class II antigen E alpha	Hmox1
NM_133232	Inducible 6-phosphofructo-2-kinase	Pfkfb3
NM_010547	Inhibitor of kappaB kinase gamma	Ikbkg
NM_009384	Inositol polyphosphate-1-phosphatase	Inpp1
NM_031156	Insulin degrading enzyme	Id4
NM_008386	Insulin 1	Ins1
NM_008387	Insulin II	Ins2
NM_011832	Insulin receptor-related receptor	Instrr
NM_010518	Insulin-like growth factor binding protein 5	Igfbs5
NM_010494	Intercellular adhesion molecule 2	Icam2
NM_010557	Interleukin 4 receptor, alpha	Il4ra
NM_009509	Lipoprotein lipase	Lpl
NM_133198	Liver glycogen phosphorylase	Pylg
NM_009615	Malic enzyme, supernatant	Mod1
NM_011951	Mitogen activated protein kinase 14	Miapk14
NM_016700	Mitogen activated protein kinase 8	Miapk8
NM_008740	N-ethylmaleimide sensitive fusion protein	Nsf
NM_009717	Neurogenic differentiation 6	Neurog6
NM_008713	Nitric oxide synthase 3, endothelial cell	Nos3
NM_013627	Paired box gene 6	Pax6
NM_011040	Paired box gene 8	Pax8
NM_011144	Peroxisome proliferator activated receptor alpha	Ppara
NM_134027	Peroxisome proliferator activated receptor binding protein	Pparbp
NM_011146	Peroxisome proliferator activated receptor gamma	Pparg
NM_011044	Phosphoenolpyruvate carboxykinase 1, cytosolic	Pck1
NM_009003	RAB4A, member RAS oncogene family	Rab4a
NM_024277	Ribosomal protein S27a	Rps27a
NM_011346	Selectin, lymphocyte	Sell
NM_028122	Solute carrier family 14 (urea transporter), member 1	Slc14a1
NM_031197	Solute carrier family 2 (facilitated glucose transporter), member 2	Slc2a2
NM_009127	Stearyl-Coenzyme A desaturase 1	Scd1
NM_013671	Superoxide dismutase 2, mitochondrial	Sod2
NM_009222	Synaptosomal-associated protein, 23kD	Snap23