

GeneSymbol	遺伝子名	Gene ID	GHR	Safety Pan	NCC	Sibata	備考
AAAS	aladin WD repeat nucleoporin	8086	1				
AASS	aminoadipate-semialdehyde synthase	10157	1				
ABAT	4-aminobutyrate aminotransferase	18	1				
ABCA1	ATP binding cassette subfamily A member 1	19	1				
ABCA12	ATP binding cassette subfamily A member 12	26154	1				
ABCA3	ATP binding cassette subfamily A member 3	21	1				
ABCA4	ATP binding cassette subfamily A member 4	24	1				
ABCB11	ATP binding cassette subfamily B member 11	8647	1				
ABCB4	ATP binding cassette subfamily B member 4	5244	1				
ABCB7	ATP binding cassette subfamily B member 7	22	1				X-linked gene
ABCC2	ATP binding cassette subfamily C member 2	1244	1				
ABCC6	ATP binding cassette subfamily C member 6	368	1				
ABCC8	ATP binding cassette subfamily C member 8	6833	1				
ABCC9	ATP binding cassette subfamily C member 9	10060	1				
ABCD1	ATP binding cassette subfamily D member 1	215	1				X-linked gene
ABCD4	ATP binding cassette subfamily D member 4	5826	1				
ABCG2	ATP binding cassette subfamily G member 2 (Junior blood group)	9429	1				
ABCG5	ATP binding cassette subfamily G member 5	64240	1				
ABCG8	ATP binding cassette subfamily G member 8	64241	1				
ABHD5	abhydrolase domain containing 5	51099	1				
ABL1	ABL proto-oncogene 1, non-receptor tyrosine kinase	25	1			1	
ABL2	ABL proto-oncogene 2, non-receptor tyrosine kinase	27				1	
ACAD8	acyl-CoA dehydrogenase family member 8	27034	1				
ACAD9	acyl-CoA dehydrogenase family member 9	28976	1				
ACADM	acyl-CoA dehydrogenase medium chain	34	1				
ACADS	acyl-CoA dehydrogenase short chain	35	1				
ACADSB	acyl-CoA dehydrogenase short/branched chain	36	1				
ACADVL	acyl-CoA dehydrogenase very long chain	37	1				
ACAN	aggrecan	176	1				
ACAT1	acetyl-CoA acetyltransferase 1	38	1				
ACE	angiotensin I converting enzyme	1636	1	1			
ACHE	acetylcholinesterase	43		1			
ACOX1	acyl-CoA oxidase 1	51	1				
ACP5	acid phosphatase 5, tartrate resistant	54	1				
ACSF3	acyl-CoA synthetase family member 3	197322	1				
ACTA1	actin alpha 1, skeletal muscle	58	1				
ACTA2	actin alpha 2, smooth muscle, aorta	59	1				
ACTB	actin beta	60	1				
ACTG1	actin gamma 1	71	1				
ACTG2	actin, gamma 2, smooth muscle, enteric	72	1				
ACVR1	activin A receptor type 1	90	1				
ACVR1B	activin A receptor type 1B	91				1	
ACVRL1	activin A receptor like type 1	94	1				
ACY1	aminoacylase 1	95	1				
ADA	adenosine deaminase	100	1				
ADA2	adenosine deaminase 2	51816	1				
ADAMTS10	ADAM metalloproteinase with thrombospondin type 1 motif 10	81794	1				
ADAMTS13	ADAM metalloproteinase with thrombospondin type 1 motif 13	11093	1				
ADAMTS2	ADAM metalloproteinase with thrombospondin type 1 motif 2	9509	1				
ADAMTSL2	ADAMTS like 2	9719	1				
ADAMTSL4	ADAMTS like 4	54507	1				
ADAR	adenosine deaminase, RNA specific	103	1				
ADCY5	adenylate cyclase 5	111	1				
ADGRE2	adhesion G protein-coupled receptor E2	30817	1				
ADGRG1	adhesion G protein-coupled receptor G1	9289	1				
ADNP	activity dependent neuroprotector homeobox	23394	1				
ADORA1	adenosine A1 receptor	134		1			
ADORA2A	adenosine A2a receptor	135		1			
ADRA1A	adrenoceptor alpha 1A	148		1			
ADRA1B	adrenoceptor alpha 1B	147	1				
ADRA1D	adrenoceptor alpha 1D	146		1			
ADRA2A	adrenoceptor alpha 2A	150		1			
ADRA2B	adrenoceptor alpha 2B	151	1				
ADRB1	adrenoceptor beta 1	153		1			
ADRB2	adrenoceptor beta 2	154		1			
ADSL	adenylosuccinate lyase	158	1				
AFF2	AF4/FMR2 family member 2	2334	1				X-linked gene
AFF3	AF4/FMR2 family member 3	3899				1	
AFF4	AF4/FMR2 family member 4	27125	1				
AGA	aspartylglucosaminidase	175	1				
AGL	amylase-1, 6-glucosidase, 4-alpha-glucanotransferase	178	1				
AGPAT2	1-acylglycerol-3-phosphate O-acyltransferase 2	10555	1				
AGPS	alkylglycerone phosphate synthase	8540	1				
AGT	angiotensinogen	183	1				
AGTR1	angiotensin II receptor type 1	185	1	1			
AGXT	alanine-glyoxylate and serine-pyruvate aminotransferase	189	1				
AHCY	adenosylhomocysteinase	191	1				
AHDC1	AT-hook DNA binding motif containing 1	27245	1				
AIP	aryl hydrocarbon receptor interacting protein	9049	1				
AIRE	autoimmune regulator	326	1				
AKAP9	A-kinase anchoring protein 9	10142				1	
AKR1D1	aldo-keto reductase family 1 member D1	6718	1				
AKT1	AKT serine/threonine kinase 1	207	1			1	
AKT2	AKT serine/threonine kinase 2	208				1	
AKT3	AKT serine/threonine kinase 3	10000	1				
ALAD	aminolevulinic acid dehydratase	210	1				
ALAS2	5-aminolevulinic acid synthase 2	212	1				X-linked gene
ALDH3A2	aldehyde dehydrogenase 3 family member A2	224	1				
ALDH4A1	aldehyde dehydrogenase 4 family member A1	8659	1				
ALDH5A1	aldehyde dehydrogenase 5 family member A1	7915	1				
ALDH7A1	aldehyde dehydrogenase 7 family member A1	501	1				
ALDOB	aldolase, fructose-bisphosphate B	229	1				
ALG1	ALG1, chitobiosylphosphodolichol beta-mannosyltransferase	56052	1				
ALG12	ALG12, alpha-1,6-mannosyltransferase	79087	1				
ALG6	ALG6, alpha-1,3-glucosyltransferase	29929	1				
ALK	ALK receptor tyrosine kinase	238	1			1	
ALMS1	ALMS1, centrosome and basal body associated protein	7840	1				

ALOX12B	arachidonate 12-lipoxygenase, 12R type	242	1				
ALOXE3	arachidonate lipoxygenase 3	59344	1				
ALPL	alkaline phosphatase, biomineralization associated	249	1				
ALS2	ALS2, alsin Rho guanine nucleotide exchange factor	57679	1				
ALX1	ALX homeobox 1	8092	1				
ALX3	ALX homeobox 3	257	1				
ALX4	ALX homeobox 4	60529	1				
AMACR	alpha-methylacyl-CoA racemase	23600	1				
AMELX	amelogenin X-linked	265	1				X-linked gene
AMER1	APC membrane recruitment protein 1	139285	1			1	X-linked gene, Shibata listではFAM
AMH	anti-Mullerian hormone	268	1				
AMHR2	anti-Mullerian hormone receptor type 2	269	1				
AMN	amniotic epithelial membrane protein	81693	1				
AMPD1	adenosine monophosphate deaminase 1	270	1				
AMT	aminomethyltransferase	275	1				
ANK1	ankyrin 1	286	1				
ANK2	ankyrin 2	287	1				
ANKH	ANKH inorganic pyrophosphate transport regulator	56172	1				
ANKRD11	ankyrin repeat domain 11	29123	1				
ANO5	anoctamin 5	203859	1				
ANOS1	anosmin 1	3730	1				X-linked gene
ANTXR2	ANTXR cell adhesion molecule 2	118429	1				
APC	APC, WNT signaling pathway regulator	324	1		1		1
APOA1	apolipoprotein A1	335	1				
APOB	apolipoprotein B	338	1				
APOE	apolipoprotein E	348	1				
APP	amyloid beta precursor protein	351	1				
APRT	adenine phosphoribosyltransferase	353	1				
APT	apertosis	54840	1				
AQP2	aquaporin 2	359	1				
AR	androgen receptor	367	1		1		X-linked gene
ARFGEF2	ADP ribosylation factor guanine nucleotide exchange factor 2	10564	1				
ARG1	arginase 1	383	1				
ARHGAP31	Rho GTPase activating protein 31	57514	1				
ARHGEF12	Rho guanine nucleotide exchange factor 12	23365	1			1	
ARID1A	AT-rich interaction domain 1A	8289	1		1		1
ARID1B	AT-rich interaction domain 1B	57492	1				
ARID2	AT rich interactive domain 2 (ARID, RFX-like)	196528	1		1		1
ARMC5	armadillo repeat containing 5	79798	1				
ARMS2	age-related maculopathy susceptibility 2	387715	1				
ARSA	arylsulfatase A	410	1				
ARSB	arylsulfatase B	411	1				
ARSL	arylsulfatase E	415	1				X-linked gene
ARX	aristaless related homeobox	170302	1				X-linked gene
ASAH1	N-acylsphingosine amidohydrolase 1	427	1				
ASH1L	ASH1 like histone lysine methyltransferase	55870	1				
ASL	argininosuccinate lyase	435	1				
ASNS	asparagine synthetase (glutamine-hydrolyzing)	440	1				
ASPA	aspartoacylase	443	1				
ASPM	assembly factor for spindle microtubules	259266	1				
ASS1	argininosuccinate synthase 1	445	1				
ASXL1	ASXL transcriptional regulator 1	171023	1				1
ATF1	activating transcription factor 1	466	1				1
ATG16L1	autophagy related 16 like 1	55054	1				
ATL1	atlastin GTPase 1	51062	1				
ATM	ATM serine/threonine kinase	472	1		1		1
ATN1	atrophin 1	1822	1				
ATP12A	ATPase H+/K+ transporting non-gastric alpha2 subunit	479	1		1		
ATP1A1	ATPase Na+/K+ transporting subunit alpha 1	476	1		1		
ATP1A2	ATPase Na+/K+ transporting subunit alpha 2	477	1		1		
ATP1A3	ATPase Na+/K+ transporting subunit alpha 3	478	1		1		
ATP1A4	ATPase Na+/K+ transporting subunit alpha 4	480	1		1		
ATP1B1	ATPase Na+/K+ transporting family member beta 1	481	1		1		
ATP1B2	ATPase Na+/K+ transporting family member beta 2	482	1		1		
ATP1B3	ATPase Na+/K+ transporting family member beta 3	483	1		1		
ATP1B4	ATPase Na+/K+ transporting family member beta 4	23439	1		1		X-linked gene
ATP2A1	ATPase sarcoplasmic/endoplasmic reticulum Ca2+ transporting 1	487	1				
ATP2A2	ATPase sarcoplasmic/endoplasmic reticulum Ca2+ transporting 2	488	1				
ATP2C1	ATPase secretory pathway Ca2+ transporting 1	27032	1				
ATP6V0A2	ATPase H+ transporting V0 subunit a2	23545	1				
ATP6V0A4	ATPase H+ transporting V0 subunit a4	50617	1				
ATP6V1B1	ATPase H+ transporting V1 subunit B1	525	1				
ATP7A	ATPase copper transporting alpha	538	1				X-linked gene
ATP7B	ATPase copper transporting beta	540	1				
ATP8B1	ATPase phospholipid transporting 8B1	5205	1				
ATR	ATR serine/threonine kinase	545	1			1	
ATRX	ATRX, chromatin remodeler	546	1				1 X-linked gene
ATXN1	ataxin 1	6310	1				
ATXN2	ataxin 2	6311	1				
ATXN3	ataxin 3	4287	1				
AUH	AU RNA binding methylglutaconyl-CoA hydratase	549	1				
AURKC	aurora kinase C	6795	1				
AVP	arginine vasopressin	551	1				
AVPR1A	arginine vasopressin receptor 1A	552	1		1		
AVPR2	arginine vasopressin receptor 2	554	1				X-linked gene
AXIN1	axin 1	8312	1		1		1
AXIN2	axin 2	8313	1				1
B3GLCT	beta 3-glucosyltransferase	145173	1				
BAP1	BRCA1 associated protein 1	8314	1		1		1
BARD1	BRCA1 associated RING domain 1	580	1		1		
BBS1	Bardet-Biedl syndrome 1	582	1				
BBS10	Bardet-Biedl syndrome 10	79738	1				
BCHE	butyrylcholinesterase	590	1				
BCKDHA	branched chain keto acid dehydrogenase E1, alpha polypeptide	593	1				
BCKDHB	branched chain keto acid dehydrogenase E1 subunit beta	594	1				
BCL11A	BAF chromatin remodeling complex subunit BCL11A	53335	1				1
BCL11B	BAF chromatin remodeling complex subunit BCL11B	64919	1				1
BCL2	BCL2 apoptosis regulator	596	1				1

BCL2L11	BCL2-like 11 (apoptosis facilitator)	10018			1		NCCではBCL2L11/BIM
BCL3	BCL3 transcription coactivator	602				1	
BCL6	BCL6 transcription repressor	604				1	
BCOR	BCL6 corepressor	54880	1			1	X-linked gene
BCR	BCR, RhoGEF and GTPase activating protein	613	1			1	
BCS1L	BCS1 homolog, ubiquinol-cytochrome c reductase complex chaperone	617	1				
BDKRB2	bradykinin receptor B2	624		1			
BDNF	brain derived neurotrophic factor	627	1				
BEST1	bestrophin 1	7439	1				
BICD2	BICD cargo adaptor 2	23299	1				
BIN1	bridging integrator 1	274	1				
BLM	BLM RecQ like helicase	641	1			1	
BMPRI1A	bone morphogenetic protein receptor type 1A	657	1			1	
BMPR2	bone morphogenetic protein receptor type 2	659	1				
BOLA3	bolA family member 3	388962	1				
BRAF	B-Raf proto-oncogene, serine/threonine kinase	673	1			1	
BRCA1	BRCA1, DNA repair associated	672	1		1	1	
BRCA2	BRCA2, DNA repair associated	675	1		1	1	
BRIP1	BRCA1 interacting protein C-terminal helicase 1	83990					Shibata listではFANCDJ
BSCL2	BSCL2, seipin lipid droplet biogenesis associated	26580	1				
BSND	bartin CLCNK type accessory beta subunit	7809	1				
BTB	biotinidase	686	1				
BTK	Bruton tyrosine kinase	695	1				X-linked gene
BUB1B	BUB1 mitotic checkpoint serine/threonine kinase B	701	1				
C19orf12	chromosome 19 open reading frame 12	83636	1				
C2	complement C2	717	1				
C3	complement C3	718	1				
C8A	complement C8 alpha chain	731	1				
C8B	complement C8 beta chain	732	1				
C9orf72	C9orf72-SMCR8 complex subunit	203228	1				
CA12	carbonic anhydrase 12	771	1				
CA5A	carbonic anhydrase 5A	763	1				
CACNA1A	calcium voltage-gated channel subunit alpha1 A	773	1				
CACNA1B	Calcium voltage-gated channel subunit alpha1 C (Calcium Channel)	774		1			
CACNA1C	calcium voltage-gated channel subunit alpha1 C	775	1	1			
CACNA1D	calcium voltage-gated channel subunit alpha1 D	776	1				
CACNA1F	calcium voltage-gated channel subunit alpha1 F	778	1				X-linked gene
CACNA1S	calcium voltage-gated channel subunit alpha1 S	779	1				
CACNB4	calcium voltage-gated channel auxiliary subunit beta 4	785	1				
CALR	calreticulin	811	1				
CAPN3	calpain 3	825	1				
CARD11	caspase recruitment domain family member 11	84433	1			1	
CARD14	caspase recruitment domain family member 14	79092	1				
CARD9	caspase recruitment domain family member 9	64170	1				
CARS	cysteinyI-tRNA synthetase	27267				1	
CASK	calcium/calmodulin dependent serine protein kinase	8573	1				X-linked gene
CASQ2	calsequestrin 2	845	1				
CASR	calcium sensing receptor	846	1				
CAT	catalase	847	1				
CATSPER1	cation channel sperm associated 1	117144	1				
CATSPER2	cation channel sperm associated 2	117155	1				
CAV1	caveolin 1	857	1				
CAV3	caveolin 3	859	1				
CAVIN1	caveolae associated protein 1	284119	1				
CBFA2T3	CBFA2/RUNX1 partner transcriptional co-repressor 3	863				1	
CBFB	core-binding factor subunit beta	865	1				
CBLB	Cbl proto-oncogene B	868				1	
CBLC	Cbl proto-oncogene C	23624				1	
CBS	cystathionine-beta-synthase	875	1				
CCBE1	collagen and calcium binding EGF domains 1	147372	1				
CCKAR	cholecystokinin A receptor, CCK1 (CCKA)	886		1			
CCKBR	cholecystokinin B receptor, CCK2 (CCKB)	887		1			
CCM2	CCM2 scaffold protein	83605	1				
CCN6	cellular communication network factor 6	8838	1				
CCND1	cyclin D1	595				1	
CCND2	cyclin D2	894	1			1	
CCND3	cyclin D3	896				1	
CCR1	C-C motif chemokine receptor 1, (CCR1)	1230		1			
CD40LG	CD40 ligand	959	1				X-linked gene
CDAN1	codanin 1	146059	1				
CDC6	cell division cycle 6	990	1				
CDC73	cell division cycle 73	79577	1			1	
CDH1	cadherin 1	999	1			1	
CDH11	cadherin 11	1009				1	
CDH23	cadherin related 23	64072	1				
CDK6	cyclin dependent kinase 6	1021				1	
CDKL5	cyclin dependent kinase like 5	6792	1				X-linked gene
CDKN1B	cyclin dependent kinase inhibitor 1B	1027	1				
CDKN1C	cyclin dependent kinase inhibitor 1C	1028	1				
CDKN2A	cyclin dependent kinase inhibitor 2A	1029	1		1	1	
CDKN2C	cyclin dependent kinase inhibitor 2C	1031				1	
CDT1	chromatin licensing and DNA replication factor 1	81620	1				
CDX2	caudal type homeobox 2	1045				1	
CEBPA	CCAAT enhancer binding protein alpha	1050	1			1	
CEP290	centrosomal protein 290	80184	1				
CEP57	centrosomal protein 57	9702	1				
CFH	complement factor H	3075	1				
CFHR5	complement factor H related 5	81494	1				
CFI	complement factor I	3426	1				
CFTR	cystic fibrosis transmembrane conductance regulator	1080	1				
CHAT	choline O-acetyltransferase	1103	1				
CHD2	chromodomain helicase DNA binding protein 2	1106	1				
CHD7	chromodomain helicase DNA binding protein 7	55636	1				
CHD8	chromodomain helicase DNA binding protein 8	57680	1				
CHEK1	checkpoint kinase 1	1111				1	
CHEK2	checkpoint kinase 2	11200	1		1	1	
CHM	CHM, Rab escort protein 1	1121	1				X-linked gene
CHMP2B	charged multivesicular body protein 2B	25978	1				

CHN1	chimerin 1	1123	1				
CHRM1	cholinergic receptor muscarinic 1	1128		1			
CHRM2	cholinergic receptor muscarinic 2	1129		1			
CHRM3	cholinergic receptor muscarinic 3	1131		1			
CHRM4	cholinergic receptor muscarinic 4	1132		1			
CHRNA1	cholinergic receptor nicotinic alpha 1 subunit	1134		1			
CHRNA2	cholinergic receptor nicotinic alpha 2 subunit	1135	1				
CHRNA3	cholinergic receptor nicotinic alpha 3 subunit	1136		1			
CHRNA4	cholinergic receptor nicotinic alpha 4 subunit	1137	1				
CHRN2	cholinergic receptor nicotinic beta 2 subunit	1141	1				
CHRN4	cholinergic receptor nicotinic beta 4 subunit	1143		1			
CHRE	cholinergic receptor nicotinic epsilon subunit	1145	1				
CHRG	cholinergic receptor nicotinic gamma subunit	1146	1				
CHST3	carbohydrate sulfotransferase 3	9469	1				
CIC	capicua transcriptional repressor	23152				1	
CIITA	class II major histocompatibility complex transactivator	4261	1				
CISD2	CDGSH iron sulfur domain 2	493856	1				
CLCF1	cardiotrophin like cytokine factor 1	23529	1				
CLCN1	chloride voltage-gated channel 1	1180	1				
CLCN2	chloride voltage-gated channel 2	1181	1				
CLCN5	chloride voltage-gated channel 5	1184	1				X-linked gene
CLCN7	chloride voltage-gated channel 7	1186	1				
CLCNKA	chloride voltage-gated channel Ka	1187	1				
CLCNKB	chloride voltage-gated channel Kb	1188	1				
CLIP2	CAP-Gly domain containing linker protein 2	7461	1				
CLN3	CLN3 lysosomal/endosomal transmembrane protein, battenin	1201	1				
CLN5	LN5 intracellular trafficking protein	1203	1				
CLN6	CLN6 transmembrane ER protein	54982	1				
CLN8	CLN8 transmembrane ER and ERGIC protein	2055	1				
CLPB	caseinolytic mitochondrial matrix peptidase chaperone subunit B	81570	1				
CLPP	caseinolytic mitochondrial matrix peptidase proteolytic subunit	8192	1				
CLRN1	clarin 1	7401	1				
CNBP	CCHC-type zinc finger nucleic acid binding protein	7555	1				
CNGA3	cyclic nucleotide gated channel alpha 3	1261	1				
CNGB3	cyclic nucleotide gated channel beta 3	54714	1				
CNR1	cannabinoid receptor 1	1268		1			
CNR2	cannabinoid receptor 2	1269		1			
COG5	component of oligomeric golgi complex 5	10466	1				
COL11A1	collagen type XI alpha 1 chain	1301	1				
COL11A2	collagen type XI alpha 2 chain	1302	1				
COL17A1	collagen type XVII alpha 1 chain	1308	1				
COL18A1	collagen type XVIII alpha 1 chain	80781	1				
COL1A1	collagen type I alpha 1 chain	1277	1			1	
COL1A2	collagen type I alpha 2 chain	1278	1				
COL2A1	collagen type II alpha 1 chain	1280	1				
COL3A1	collagen type III alpha 1 chain	1281	1				
COL4A1	collagen type IV alpha 1 chain	1282	1				
COL4A3	collagen type IV alpha 3 chain	1285	1				
COL4A4	collagen type IV alpha 4 chain	1286	1				
COL4A5	collagen type IV alpha 5 chain	1287	1				X-linked gene
COL5A1	collagen type V alpha 1 chain	1289	1				
COL5A2	collagen type V alpha 2 chain	1290	1				
COL6A1	collagen type VI alpha 1 chain	1291	1				
COL6A2	collagen type VI alpha 2 chain	1292	1				
COL6A3	collagen type VI alpha 3 chain	1293	1				
COL7A1	collagen type VII alpha 1 chain	1294	1				
COL8A2	collagen type VIII alpha 2 chain	1296	1				
COL9A1	collagen type IX alpha 1 chain	1297	1				
COL9A2	collagen type IX alpha 2 chain	1298	1				
COL9A3	collagen type IX alpha 3 chain	1299	1				
COLEC10	collectin subfamily member 10	10584	1				
COLEC11	collectin subfamily member 11	78989	1				
COLQ	collagen like tail subunit of asymmetric acetylcholinesterase	8292	1				
COMP	cartilage oligomeric matrix protein	1311	1				
COMT	catechol-O-methyltransferase	1312	1				
COQ2	coenzyme Q2, polyprenyltransferase	27235	1				
COQ4	coenzyme Q4	51117	1				
COQ6	coenzyme Q6, monooxygenase	51004	1				
COQ8A	coenzyme Q8A	56997	1				
COQ8B	coenzyme Q8B	79934	1				
CP	ceruloplasmin	1356	1				
CPOX	coproporphyrinogen oxidase	1371	1				
CPS1	carbamoyl-phosphate synthase 1	1373	1				
CPT1A	carnitine palmitoyltransferase 1A	1374	1				
CPT2	carnitine palmitoyltransferase 2	1376	1				
CRB1	crumbs 1, cell polarity complex component	23418	1				
CREB1	cAMP responsive element binding protein 1	1385				1	
CREBBP	CREB binding protein	1387	1		1		1
CRLF1	cytokine receptor like factor 1	9244	1				
CRPPA	CDP-L-ribitol pyrophosphorylase A	729920	1				
CRTAP	cartilage associated protein	10491	1				
CRX	cone-rod homeobox	1406	1				
CSF1R	colony stimulating factor 1 receptor	1436	1				
CST3	cystatin C	1471	1				
CSTB	cystatin B	1476	1				
CTC1	CST telomere replication complex component 1	80169	1				
CTDP1	CTD phosphatase subunit 1	9150	1				
CTNBN1	catenin beta 1	1499	1			1	
CTNND1	catenin delta 1	1500	1				
CTNND2	catenin delta 2	1501	1				
CTNS	cystinosis, lysosomal cystine transporter	1497	1				
CTSA	cathepsin A	5476	1				
CTSD	cathepsin D	1509	1				
CTSG	cathepsin G	1511		1			
CUBN	cubilin	8029	1				
CUL3	cullin 3	8452	1		1		
CUL7	cullin 7	9820	1				
GXCR2	C-X-C motif chemokine receptor 2	3579		1			

GXCR4	C-X-C motif chemokine receptor 4	7852	1				
CYB5R3	cytochrome b5 reductase 3	1727	1				
CYBA	cytochrome b-245 alpha chain	1535	1				
CYBB	cytochrome b-245 beta chain	1536	1				X-linked gene
CYLD	CYLD lysine 63 deubiquitinase	1540	1			1	
CYP11B1	cytochrome P450 family 11 subfamily B member 1	1584	1				
CYP11B2	cytochrome P450 family 11 subfamily B member 2	1585	1				
CYP17A1	cytochrome P450 family 17 subfamily A member 1	1586	1				
CYP19A1	cytochrome P450 family 19 subfamily A member 1	1588	1				
CYP1B1	cytochrome P450 family 1 subfamily B member 1	1545	1				
CYP21A2	cytochrome P450 family 21 subfamily A member 2	1589	1				
CYP24A1	cytochrome P450 family 24 subfamily A member 1	1591	1				
CYP27A1	cytochrome P450 family 27 subfamily A member 1	1593	1				
CYP27B1	cytochrome P450 family 27 subfamily B member 1	1594	1				
CYP2C19	cytochrome P450 family 2 subfamily C member 19	1557	1				
CYP2C9	cytochrome P450 family 2 subfamily C member 9	1559	1				
CYP2R1	cytochrome P450 family 2 subfamily R member 1	120227	1				
CYP4V2	cytochrome P450 family 4 subfamily V member 2	285440	1				
CYP7B1	cytochrome P450 family 7 subfamily B member 1	9420	1				
CYSLTR1	cysteinyl leukotriene receptor 1, cysteinyl CysLT1	10800		1			X-linked gene
D2HGDH	D-2-hydroxyglutarate dehydrogenase	728294	1				
DARS1	aspartyl-tRNA synthetase	1615	1				
DARS2	aspartyl-tRNA synthetase 2, mitochondrial	55157	1				
DAXX	death domain associated protein	1616				1	
DBH	dopamine beta-hydroxylase	1621	1				
DBT	dihydrolipoamide branched chain transacylase E2	1629	1				
DCAF17	DDb1 and CUL4 associated factor 17	80067	1				
DCC	DCC netrin 1 receptor	1630	1				
DCN	decorin	1634	1				
DCTN1	dynactin subunit 1	1639	1				
DCX	doublecortin	1641	1				X-linked gene
DCXR	dicarbonyl and L-xylulose reductase	51181	1				
DDB2	damage specific DNA binding protein 2	1643				1	
DDC	dopa decarboxylase	1644	1				
DDIT3	DNA damage inducible transcript 3	1649				1	
DDX11	DEAD/H-box helicase 11	1663	1				
DDX5	DEAD-box helicase 5	1655				1	
DDX6	DEAD-box helicase 6	1656				1	
DEK	DEK proto-oncogene	7913				1	
DEPDC5	DEP domain containing 5, GATOR1 subcomplex subunit	9681	1				
DES	desmin	1674	1				
DGUOK	deoxyguanosine kinase	1716	1				
DHCR24	24-dehydrocholesterol reductase	1718	1				
DHCR7	7-dehydrocholesterol reductase	1717	1				
DHH	desert hedgehog signaling molecule	50846	1				
DHODH	dihydroorotate dehydrogenase (quinone)	1723	1				
DICER1	dicer 1, ribonuclease III	23405	1			1	Shibata list ではDICER
DKC1	dyskerin pseudouridine synthase 1	1736	1				X-linked gene
DLAT	dihydrolipoamide S-acetyltransferase	1737	1				
DLD	dihydrolipoamide dehydrogenase	1738	1				
DLL3	delta like canonical Notch ligand 3	10683	1				
DLL4	delta like canonical Notch ligand 4	54567	1				
DMD	dystrophin	1756	1				X-linked gene
DMPK	DM1 protein kinase	1760	1				
DNAH5	dynein axonemal heavy chain 5	1767	1				
DNAI1	dynein axonemal intermediate chain 1	27019	1				
DNAJC19	DnaJ heat shock protein family (Hsp40) member C19	131118	1				
DNAJC5	DnaJ heat shock protein family (Hsp40) member C5	80331	1				
DNM2	dynamitin 2	1785	1				
DNMT1	DNA methyltransferase 1	1786	1				
DNMT3A	DNA methyltransferase 3 alpha	1788	1			1	
DOCK6	dedicator of cytokinesis 6	57572	1				
DOCK8	dedicator of cytokinesis 8	81704	1				
DOK7	docking protein 7	285489	1				
DOLK	dolichol kinase	22845	1				
DPY19L2	dpy-19 like 2	283417	1				
DPYD	dihydropyrimidine dehydrogenase	1806	1				
DPYS	dihydropyrimidinase	1807	1				
DRD1	dopamine receptor D1	1812		1			
DRD2	dopamine receptor D2	1813		1			
DRD5	dopamine receptor D5	1816	1				
DSC2	desmocollin 2	1824	1				
DSG4	desmoglein 4	147409	1				
DSP	desmoplakin	1832	1				
DSPP	dentin sialophosphoprotein	1834	1				
DUOX2	dual oxidase 2	50506	1				
DUX4	double homeobox 4	100288687	1				
DVL1	dishevelled segment polarity protein 1	1855	1				
DVL3	dishevelled segment polarity protein 3	1857	1				
DYNC1H1	dynein cytoplasmic 1 heavy chain 1	1778	1				
DYNC2H1	dynein cytoplasmic 2 heavy chain 1	79659	1				
DYRK1A	dual specificity tyrosine phosphorylation regulated kinase 1A	1859	1				
DYSF	dysferlin	8291	1				
EARS2	glutamyl-tRNA synthetase 2, mitochondrial	124454	1				
EBP	EBP, cholesterol delta-isomerase	10682	1				X-linked gene
ECM1	extracellular matrix protein 1	1893	1				
EDA	ectodysplasin A	1896	1				X-linked gene
EDAR	ectodysplasin A receptor	10913	1				
EDARADD	EDAR associated death domain	128178	1				
EDN3	endothelin 3	1908	1				
EDNRA	endothelin receptor type A	1909		1			
EDNRB	endothelin receptor type B	1910	1				
EFEMP2	EGF containing fibulin extracellular matrix protein 2	30008	1				
EFHC1	EF-hand domain containing 1	114327	1				
EFTUD2	elongation factor Tu GTP binding domain containing 2	9343	1				
EGFR	epidermal growth factor receptor	1956	1			1	
EGLN1	egl-9 family hypoxia inducible factor 1	54583	1				
EHMT1	euchromatic histone lysine methyltransferase 1	79813	1				

EIF2AK4	eukaryotic translation initiation factor 2 alpha kinase 4	440275	1				
EIF2B1	eukaryotic translation initiation factor 2B subunit alpha	1967	1				
EIF2B2	eukaryotic translation initiation factor 2B subunit beta	8892	1				
EIF2B3	eukaryotic translation initiation factor 2B subunit gamma	8891	1				
EIF2B4	eukaryotic translation initiation factor 2B subunit delta	8890	1				
EIF2B5	eukaryotic translation initiation factor 2B subunit epsilon	8893	1				
ELANE	elastase, neutrophil expressed	1991	1				
ELK4	ETS transcription factor ELK4	2005				1	
ELN	elastin	2006	1				
ELOVL4	ELOVL fatty acid elongase 4	6785	1				
ELP1	elongator complex protein 1	8518	1				
EMD	emerin	2010	1				X-linked gene
EMG1	EMG1, N1-specific pseudouridine methyltransferase	10436	1				
ENAM	enamelin	10117	1				
ENG	endoglin	2022	1				
ENO1	enolase 1	2023			1		
ENPP1	ectonucleotide pyrophosphatase/phosphodiesterase 1	5167	1				
EOGT	EGF domain specific O-linked N-acetylglucosamine transferase	285203	1				
EP300	E1A binding protein p300	2033	1		1		1
EPAS1	endothelial PAS domain protein 1	2034	1				
EPCAM	epithelial cell adhesion molecule	4072	1				
EPG5	ectopic P-granules autophagy protein 5 homolog	57724	1				
EPM2A	EPM2A glucan phosphatase, laforin	7957	1				
EPOR	erythropoietin receptor	2057	1				
EPX	eosinophil peroxidase	8288	1				
ERAP1	endoplasmic reticulum aminopeptidase 1	51752	1				
ERBB2	Erb-B2 receptor tyrosine kinase 2	2064					1
ERCC2	ERCC excision repair 2, TFIIH core complex helicase subunit	2068	1				
ERCC3	ERCC excision repair 3, TFIIH core complex helicase subunit	2071	1				1
ERCC4	ERCC excision repair 4, endonuclease catalytic subunit	2072					1
ERCC5	ERCC excision repair 5, endonuclease	2073					1
ERCC6	ERCC excision repair 6, chromatin remodeling factor	2074	1				1
ERCC8	ERCC excision repair 8, CSA ubiquitin ligase complex subunit	1161	1				
ESCO2	establishment of sister chromatid cohesion N-acetyltransferase 2	157570	1				
ESR1	estrogen receptor alpha, ER alpha	2099		1			
ETFA	electron transfer flavoprotein subunit alpha	2108	1				
ETFB	electron transfer flavoprotein subunit beta	2109	1				
ETFDH	electron transfer flavoprotein dehydrogenase	2110	1				
ETHE1	ETHE1, persulfide dioxygenase	23474	1				
ETV4	ETS variant transcription factor 4	2118					1
ETV6	ETS variant transcription factor 6	2120	1				1
EVC	EvC ciliary complex subunit 1	2121	1				
EVC2	EvC ciliary complex subunit 2	132884	1				
EWSR1	EWS RNA binding protein 1	2130	1				1
EXOSC3	exosome component 3	51010	1				
EXT1	exostosin glycosyltransferase 1	2131	1				1
EXT2	exostosin glycosyltransferase 2	2132	1				1
EYA1	EYA transcriptional coactivator and phosphatase 1	2138	1				
EZH2	enhancer of zeste 2 polycomb repressive complex 2 subunit	2146	1				1
F10	coagulation factor X	2159	1				
F11	coagulation factor XI	2160	1				
F12	coagulation factor XII	2161	1				
F13A1	coagulation factor XIII A chain	2162	1				
F13B	coagulation factor XIII B chain	2165	1				
F2	coagulation factor II, thrombin	2147	1				
F5	coagulation factor V	2153	1				
F7	coagulation factor VII	2155	1				
F8	coagulation factor VIII	2157	1				X-linked gene
F9	coagulation factor IX	2158	1				X-linked gene
FA2H	fatty acid 2-hydroxylase	79152	1				
FAH	fumarylacetoacetate hydrolase	2184	1				
FAM111B	family with sequence similarity 111 member B	374393	1				
FAM126A	family with sequence similarity 126 member A	84668	1				
FAM83H	family with sequence similarity 83 member H	286077	1				
FANCA	FA complementation group A	2175	1				1
FANCB	FA complementation group B	2187					1 X-linked gene
FANCC	FA complementation group C	2176	1				
FANCD2	FA complementation group D2	2177					1
FANCE	FA complementation group E	2178					1
FANCF	FA complementation group F	2188					1
FANGC	FA complementation group G	2189	1				1
FANCI	FA complementation group I	55215					1
FANCL	FA complementation group L	55120					1
FANCM	FA complementation group M	57697					1
FAS	Fas cell surface death receptor	355	1				
FAT4	FAT atypical cadherin 4	79633	1				
FBLN5	fibulin 5	10516	1				
FBN1	fibrillin 1	2200	1				
FBN2	fibrillin 2	2201	1				
FBXL4	F-box and leucine rich repeat protein 4	26235	1				
FBXW7	F-box and WD repeat domain containing 7	55294			1		1
FECH	ferrochelatase	2235	1				
FERMT1	fermitin family member 1	55612	1				
FEV	FEV transcription factor, ETS family member	54738					1
FGA	fibrinogen alpha chain	2243	1				
FGB	fibrinogen beta chain	2244	1				
FGD1	FYVE, RhoGEF and PH domain containing 1	2245	1				X-linked gene
FGF10	fibroblast growth factor 10	2255	1				
FGF23	fibroblast growth factor 23	8074	1				
FGF3	fibroblast growth factor 3	2248	1				
FGF8	fibroblast growth factor 8	2253	1				
FGFR1	fibroblast growth factor receptor 1	2260	1				
FGFR1OP	FGFR1 oncogene partner	75296					1
FGFR2	fibroblast growth factor receptor 2	2263	1				1
FGFR3	fibroblast growth factor receptor 3	2261	1				1
FGFR4	fibroblast growth factor receptor 4	2264	1				
FGG	fibrinogen gamma chain	2266	1				
FH	fumarate hydratase	2271	1				1

FHL1	four and a half LIM domains 1	2273	1				X-linked gene
FIP1L1	factor interacting with PAPOLA and CPSF1	81608	1				
FKBP10	FKBP prolyl isomerase 10	60681	1				
FKBP14	FKBP prolyl isomerase 14	55033	1				
FKRP	fukutin related protein	79147	1				
FKTN	fukutin	2218	1				
FLCN	folliculin	201163	1			1	Shibata listではBHD、FLCN両方で記
FLG	filaggrin	2312	1				
FLI1	Fli-1 proto-oncogene, ETS transcription factor	2313	1				
FLNA	filamin A	2316	1				X-linked gene
FLNB	filamin B	2317	1				
FLT3	fms related tyrosine kinase 3	2322	1			1	
FLT4	fms related tyrosine kinase 4	2324	1				
FMO3	flavin containing dimethylaniline monooxygenase 3	2328	1				
FMR1	FMRP translational regulator 1	2332	1				X-linked gene
FN1	fibronectin 1	2335	1				
FOLR1	folate receptor alpha	2348	1				
FOXC1	forkhead box C1	2296	1				
FOXC2	forkhead box C2	2303	1				
FOXF1	forkhead box F1	2294	1				
FOXG1	forkhead box G1	2290	1				
FOXL2	forkhead box L2	668	1			1	
FOXN1	forkhead box N1	8456	1				
FOXP1	forkhead box P1	27086	1			1	
FOXP2	forkhead box P2	93986	1				
FOXP3	forkhead box P3	50943	1				X-linked gene
FRAS1	Fraser extracellular matrix complex subunit 1	80144	1				
FREM1	FRAS1 related extracellular matrix 1	158326	1				
FREM2	FRAS1 related extracellular matrix 2	341640	1				
FRMD7	FERM domain containing 7	90167	1				X-linked gene
FTCD	formimidoyltransferase cyclodeaminase	10841	1				
FTL	ferritin light chain	2512	1				
FUCA1	alpha-L-fucosidase 1	2517	1				
FUS	FUS RNA binding protein	2521	1			1	
FXN	frataxin	2395	1				
FZD2	frizzled class receptor 2	2535	1				
FZD4	frizzled class receptor 4	8322	1				
FZD6	frizzled class receptor 6	8323	1				
G6PC	glucose-6-phosphatase catalytic subunit	2538	1				
G6PD	glucose-6-phosphate dehydrogenase	2539	1				X-linked gene
GAA	glucosidase alpha, acid	2548	1				
GABBR1	gamma-aminobutyric acid type B receptor subunit 1	2550		1			
GABBR2	gamma-aminobutyric acid type B receptor subunit 2	9568		1			
GABRA1	gamma-aminobutyric acid type A receptor subunit alpha1	2554	1		1		
GABRA2	gamma-aminobutyric acid type A receptor subunit alpha2	2555			1		
GABRA3	gamma-aminobutyric acid type A receptor subunit alpha3	2556			1		X-linked gene
GABRA4	gamma-aminobutyric acid type A receptor subunit alpha4	2557			1		
GABRA5	gamma-aminobutyric acid type A receptor subunit alpha5	2558			1		
GABRA6	gamma-aminobutyric acid type A receptor subunit alpha6	2559			1		
GALC	galactosylceramidase	2581	1				
GALE	UDP-galactose-4-epimerase	2582	1				
GALK1	galactokinase 1	2584	1				
GALNS	galactosamine (N-acetyl)-6-sulfatase	2588	1				
GALNT3	polypeptide N-acetylgalactosaminyltransferase 3	2591	1				
GALT	galactose-1-phosphate uridylyltransferase	2592	1				
GAMT	guanidinoacetate N-methyltransferase	2593	1				
GAN	gigaxonin	8139	1				
GARS1	glycyl-tRNA synthetase	2617	1				
GATA1	GATA binding protein 1	2623	1			1	X-linked gene
GATA3	GATA binding protein 3	2625				1	
GATM	glycine amidinotransferase	2628	1				
GBA	glucosylceramidase beta	2629	1				
GBE1	1,4-alpha-glucan branching enzyme 1	2632	1				
GCDH	glutaryl-CoA dehydrogenase	2639	1				
GCH1	GTP cyclohydrolase 1	2643	1				
GDF3	growth differentiation factor 3	9573	1				
GDF6	growth differentiation factor 6	392255	1				
GFAP	glial fibrillary acidic protein	2670	1				
GFM1	G elongation factor mitochondrial 1	85476	1				
GH1	growth hormone 1	2688	1				
GHR	growth hormone receptor	2690	1				
GHRHR	growth hormone releasing hormone receptor	2692	1				
GJA1	gap junction protein alpha 1	2697	1				
GJB1	gap junction protein beta 1	2705	1				X-linked gene
GJB2	gap junction protein beta 2	2706	1				
GJB3	gap junction protein beta 3	2707	1				
GJB4	gap junction protein beta 4	127534	1				
GJB6	gap junction protein beta 6	10804	1				
GJC2	gap junction protein gamma 2	57165	1				
GLA	galactosidase alpha	2717	1				X-linked gene
GLB1	galactosidase beta 1	2720	1				
GLDC	glycine decarboxylase	2731	1				
GLI3	GLI family zinc finger 3	2737	1				
GLRA1	glycine receptor alpha 1	2741	1		1		
GLRA2	glycine receptor alpha 2	2742			1		X-linked gene
GLRA3	glycine receptor alpha 3	8001			1		
GLRA4	glycine receptor alpha 4 (pseudogene)	441509			1		X-linked gene
GLRB	glycine receptor beta	2743			1		
GM2A	GM2 ganglioside activator	2760	1				
GNAI1	G protein subunit alpha 11	2767	1			1	1
GNAI3	G protein subunit alpha i3	2773	1				
GNAQ	G protein subunit alpha q	2776	1			1	1
GNAS	GNAS complex locus	2778	1			1	1
GNAT1	G protein subunit alpha transducin 1	2779	1				
GNAT2	G protein subunit alpha transducin 2	2780	1				
GNE	glucosamine (UDP-N-acetyl)-2-epimerase/N-acetylmannosamine	10020	1				
GNMT	glycine N-methyltransferase	27232	1				
GNPAT	glyceronephosphate O-acyltransferase	8443	1				

GNPTAB	N-acetylglucosamine-1-phosphate transferase subunits alpha and	79158	1			
GNPTG	N-acetylglucosamine-1-phosphate transferase subunit gamma	84572	1			
GNS	glucosamine (N-acetyl)-6-sulfatase	2799	1			
GOLGA5	golgi A5	9950				1
GOPC	Golgi associated PDZ and coiled-coil motif containing	57120				1
GP1BA	glycoprotein Ib platelet subunit alpha	2811	1			
GP1BB	glycoprotein Ib platelet subunit beta	2812	1			
GP6	glycoprotein VI platelet	51206	1			
GP9	glycoprotein IX platelet	2815	1			
GPC3	glypican 3	2719	1			1 X-linked gene
GPHN	gephyrin	10243	1			
GPI	glucose-6-phosphate isomerase	2821	1			
GPR101	G protein-coupled receptor 101	83550	1			X-linked gene
GPR143	G protein-coupled receptor 143	4935	1			X-linked gene
GRHPR	glyoxylate and hydroxypyruvate reductase	9380	1			
GRK1	glutamate ionotropic receptor kainate type subunit 1	2897		1		
GRIN1	glutamate ionotropic receptor NMDA type subunit 1	2902		1		
GRIN2A	glutamate ionotropic receptor NMDA type subunit 2A	2903	1	1		
GRIN2B	glutamate ionotropic receptor NMDA type subunit 2B	2904	1	1		
GRIN2C	glutamate ionotropic receptor NMDA type subunit 2C	2905		1		
GRIN2D	glutamate ionotropic receptor NMDA type subunit 2D	2906		1		
GRIN3A	glutamate ionotropic receptor NMDA type subunit 3A	116443		1		
GRIN3B	glutamate ionotropic receptor NMDA type subunit 3B	116444		1		
GRIP1	glutamate receptor interacting protein 1	23426	1			
GRM5	glutamate metabotropic receptor 5 (mGlu5)	2915		1		
GRM6	glutamate metabotropic receptor 6	2916	1			
GRN	granulin precursor	2896	1			
GSN	gelsolin	2934	1			
GSS	glutathione synthetase	2937	1			
GTF2H5	general transcription factor IIH subunit 5	404672	1			
GTF2I	general transcription factor Iii	2969	1			
GTF2IRD1	GTF2I repeat domain containing 1	9569	1			
GUCY2D	guanylate cyclase 2D, retinal	3000	1			
GUSB	glucuronidase beta	2990	1			
GYS1	glycogen synthase 1	2997	1			
GYS2	glycogen synthase 2	2998	1			
H19	H19, imprinted maternally expressed transcript	283120	1			
H3-3A	H3.3 histone A	3020				1 Shibata listではH3F3Aと記載
HADH	hydroxyacyl-CoA dehydrogenase	3033	1			
HADHA	hydroxyacyl-CoA dehydrogenase trifunctional multienzyme complex	3030	1			
HADHB	hydroxyacyl-CoA dehydrogenase trifunctional multienzyme complex	3032	1			
HAL	histidine ammonia-lyase	3034	1			
HAMP	hepcidin antimicrobial peptide	57817	1			
HARS2	histidyl-tRNA synthetase 2, mitochondrial	23438	1			
HAX1	HCLS1 associated protein X-1	10456	1			
HBA1	hemoglobin subunit alpha 1	3039	1			
HBA2	hemoglobin subunit alpha 2	3040	1			
HBB	hemoglobin subunit beta	3043	1			
HCCS	holocytochrome c synthase	3052	1			X-linked gene
HCFC1	host cell factor C1	3054	1			X-linked gene
HCN4	hyperpolarization activated cyclic nucleotide gated potassium channel	10021	1			
HDAC4	histone deacetylase 4	9759	1			
HDAC8	histone deacetylase 8	55869	1			X-linked gene
HEPACAM	hepatic and glial cell adhesion molecule	220296	1			
HESX1	HESX homeobox 1	8820	1			
HEXA	hexosaminidase subunit alpha	3073	1			
HEXB	hexosaminidase subunit beta	3074	1			
HFE	homeostatic iron regulator	3077	1			
HGD	homogentisate 1,2-dioxygenase	3081	1			
HGSNAT	heparan-alpha-glucosaminide N-acetyltransferase	138050	1			
HINT1	histidine triad nucleotide binding protein 1	3094	1			
HIVEP2	human immunodeficiency virus type I enhancer binding protein 2	3097	1			
HJV	hemojuvelin BMP co-receptor	148738	1			
HLA-B	major histocompatibility complex, class I, B	3106	1			
HLA-DPB1	major histocompatibility complex, class II, DP beta 1	3115	1			
HLA-DQA1	major histocompatibility complex, class II, DQ alpha 1	3117	1			
HLA-DQB1	major histocompatibility complex, class II, DQ beta 1	3119	1			
HLA-DRB1	major histocompatibility complex, class II, DR beta 1	3123	1			
HLCS	holocarboxylase synthetase	3141	1			
HMBS	hydroxymethylbilane synthase	3145	1			
HMGA1	high mobility group AT-hook 1	3159				1
HMGA2	high mobility group AT-hook 2	8091				1
HMGCL	3-hydroxy-3-methylglutaryl-CoA lyase	3155	1			
HNF1A	HNF1 homeobox A	6927				1
HNF1B	HNF1 homeobox B	6928	1			
HOGA1	4-hydroxy-2-oxoglutarate aldolase 1	112817	1			
HOXA13	homeobox A13	3209	1			
HOXB13	homeobox B13	10481	1			
HPD	4-hydroxyphenylpyruvate dioxygenase	3242	1			
HPRT1	hypoxanthine phosphoribosyltransferase 1	3251	1			X-linked gene
HPS1	HPS1, biogenesis of lysosomal organelles complex 3 subunit 1	3257	1			
HPS3	HPS3, biogenesis of lysosomal organelles complex 2 subunit 1	84343	1			
HPSE2	heparanase 2 (inactive)	60495	1			
HRAS	HRas proto-oncogene, GTPase	3265	1			1
HRH1	histamine receptor H1	3269		1		
HRH2	histamine receptor H2	3274		1		
HSD17B10	hydroxysteroid 17-beta dehydrogenase 10	3028	1			X-linked gene
HSD17B3	hydroxysteroid 17-beta dehydrogenase 3	3293	1			
HSD17B4	hydroxysteroid 17-beta dehydrogenase 4	3295	1			
HSD3B2	hydroxy-delta-5-steroid dehydrogenase, 3 beta- and steroid delta-	3284	1			
HSD3B7	hydroxy-delta-5-steroid dehydrogenase, 3 beta- and steroid delta-	80270	1			
HSPB1	heat shock protein family B (small) member 1	3315	1			
HSPB8	heat shock protein family B (small) member 8	26353	1			
HSPG2	heparan sulfate proteoglycan 2	3339	1			
HTR1A	5-hydroxytryptamine receptor 1A	3350		1		
HTR1B	5-hydroxytryptamine receptor 1B	3351		1		
HTR2A	5-hydroxytryptamine receptor 2A	3356		1		
HTR2B	5-hydroxytryptamine receptor 2B	3357		1		

HTR2C	5-hydroxytryptamine receptor 2C	3358	1			X-linked gene
HTR3A	5-hydroxytryptamine receptor 3A	3359	1			
HTRA1	HtrA serine peptidase 1	5654	1			
HTT	huntingtin	3064	1			
IDH1	isocitrate dehydrogenase (NADP(+)) 1, cytosolic	3417	1		1	
IDH2	isocitrate dehydrogenase (NADP(+)) 2, mitochondrial	3418	1		1	
IDS	iduronate 2-sulfatase	3423	1			X-linked gene
IDUA	alpha-L-iduronidase	3425	1			
IFIH1	interferon induced with helicase C domain 1	64135	1			
IFT122	intraflagellar transport 122	55764	1			
IFT140	intraflagellar transport 140	9742	1			
IFT43	intraflagellar transport 43	112752	1			
IFT80	intraflagellar transport 80	57560	1			
IGF2	insulin like growth factor 2	3481	1			
IGFBP7	insulin like growth factor binding protein 7	3490	1			
IGHMBP2	immunoglobulin mu DNA binding protein 2	3508	1			
IKBKG	inhibitor of nuclear factor kappa B kinase regulatory subunit gamma	8517	1			X-linked gene
IKZF1	IKAROS family zinc finger 1	10320			1	
IL17RC	interleukin 17 receptor C	84818	1			
IL1A	interleukin 1 alpha	3552	1			
IL2	Interleukin 2	3558			1	
IL23R	interleukin 23 receptor	149233	1			
IL2RG	interleukin 2 receptor subunit gamma	3561	1			X-linked gene
IL31RA	interleukin 31 receptor A	133396	1			
IL36RN	interleukin 36 receptor antagonist	26525	1			
IL7R	interleukin 7 receptor	3575	1		1	1
INS	insulin	3630	1			
INSR	insulin receptor	3643	1	1		
IRAK4	interleukin 1 receptor associated kinase 4	51135	1			
IRF4	Interferon regulatory factor 4	3662			1	
IRF5	interferon regulatory factor 5	3663	1			
IRF6	interferon regulatory factor 6	3664	1			
IRGM	immunity related GTPase M	345611	1			
ISCU	iron-sulfur cluster assembly enzyme	23479	1			
ITGA2B	integrin subunit alpha 2b	3674	1			
ITGA6	integrin subunit alpha 6	3655	1			
ITGB2	integrin subunit beta 2	3689	1			
ITGB3	integrin subunit beta 3	3690	1			
ITGB4	integrin subunit beta 4	3691	1			
ITM2B	integral membrane protein 2B	9445	1			
ITPKC	inositol-trisphosphate 3-kinase C	80271	1			
ITPR1	inositol 1,4,5-trisphosphate receptor type 1	3708	1			
IVD	isovaleryl-CoA dehydrogenase	3712	1			
JAG1	jagged 1	182	1			
JAK2	Janus kinase 2	3717	1		1	
JAK3	Janus kinase 3	3718	1			
JPH3	junctophilin 3	57338	1			
JUN	Jun proto-oncogene, AP-1 transcription factor subunit	3725			1	
JUP	junction plakoglobin	3728	1			
KANK2	KN motif and ankyrin repeat domains 2	25959	1			
KANSL1	KAT8 regulatory NSL complex subunit 1	284058	1			
KAT6A	lysine acetyltransferase 6A	7994				1 Shibata listではMYST3
KAT6B	lysine acetyltransferase 6B	23522	1			
KCNA1	potassium voltage-gated channel subfamily A member 1	3736	1			
KCNE1	potassium voltage-gated channel subfamily E regulatory subunit 1	3753	1			
KCNH2	potassium voltage-gated channel subfamily H member 2	3757	1	1		
KCNJ1	potassium voltage-gated channel subfamily J member 1	3758	1			
KCNJ11	potassium voltage-gated channel subfamily J member 11	3767	1	1		
KCNJ2	potassium voltage-gated channel subfamily J member 2	3759	1			
KCNJ5	potassium voltage-gated channel subfamily J member 5	3762	1			
KCNK9	potassium two pore domain channel subfamily K member 9	51305	1			
KCNQ1	potassium voltage-gated channel subfamily Q member 1	3784	1			
KCNQ1OT1	KCNQ1 opposite strand/antisense transcript 1	10984	1			
KCNQ2	potassium voltage-gated channel subfamily Q member 2	3785	1			
KCNQ3	potassium voltage-gated channel subfamily Q member 3	3786	1			
KCNQ4	potassium voltage-gated channel subfamily Q member 4	9132	1			
KCNT1	potassium sodium-activated channel subfamily T member 1	57582	1			
KCTD1	potassium channel tetramerization domain containing 1	284252	1			
KDM5C	lysine demethylase 5C	8242			1	X-linked gene
KDM6A	lysine demethylase 6A	7403	1		1	X-linked gene, NCCではKDM6A/UT
KDR	kinase insert domain receptor	3791			1	
KEAP1	kelch like ECH associated protein 1	9817			1	
KHDC3L	KH domain containing 3 like, subcortical maternal complex member	154288	1			
KIF1B	kinesin family member 1B	23095	1			
KIF21A	kinesin family member 21A	55605	1			
KIF7	kinesin family member 7	374654	1			
KIT	KIT proto-oncogene, receptor tyrosine kinase	3815	1		1	
KL	klotho	9365	1			
KLHL3	kelch like family member 3	26249	1			
KLKB1	kallikrein B1	3818	1			
KLLN	killin, p53 regulated DNA replication inhibitor	100144748	1			
KMT2A	lysine methyltransferase 2A	4297			1	Shibata listではMLL
KMT2C	lysine methyltransferase 2C	58508			1	Shibata listではMLL3
KMT2D	lysine methyltransferase 2D	8085	1		1	Shibata listではMLL2
KRAS	KRAS proto-oncogene, GTPase	3845	1		1	
KRIT1	KRIT1, ankyrin repeat containing	889	1			
KRT1	keratin 1	3848	1			
KRT10	keratin 10	3858	1			
KRT12	keratin 12	3859	1			
KRT13	keratin 13	3860	1			
KRT14	keratin 14	3861	1			
KRT16	keratin 16	3868	1			
KRT17	keratin 17	3872	1			
KRT3	keratin 3	3850	1			
KRT4	keratin 4	3851	1			
KRT5	keratin 5	3852	1			
KRT6A	keratin 6A	3853	1			
KRT6B	keratin 6B	3854	1			

KRT6C	keratin 6C	286887	1				
KRT81	keratin 81	3887	1				
KRT83	keratin 83	3889	1				
KRT86	keratin 86	3892	1				
L1CAM	L1 cell adhesion molecule	3897	1				X-linked gene
L2HGDH	L-2-hydroxyglutarate dehydrogenase	79944	1				
LAMA2	laminin subunit alpha 2	3908	1				
LAMA3	laminin subunit alpha 3	3909	1				
LAMB3	laminin subunit beta 3	3914	1				
LAMC2	laminin subunit gamma 2	3918	1				
LAMP2	lysosomal associated membrane protein 2	3920	1				X-linked gene
LARGE1	LARGE xylosyl- and glucuronyltransferase 1	9215	1				
LARS2	leucyl-tRNA synthetase 2, mitochondrial	23395	1				
LBR	lamin B receptor	3930	1				
LCAT	lecithin-cholesterol acyltransferase	3931	1				
LCK	LCK proto-oncogene, Src family tyrosine kinase (LCK)	3932		1			1
LCT	lactase	3938	1				
LDB3	LIM domain binding 3	11155	1				
LDHA	lactate dehydrogenase A	3939	1				
LDHB	lactate dehydrogenase B	3945	1				
LDLR	low density lipoprotein receptor	3949	1				
LDLRAP1	low density lipoprotein receptor adaptor protein 1	26119	1				
LEMD3	LEM domain containing 3	23592	1				
LEP	leptin	3952	1				
LEPR	leptin receptor	3953	1				
LETM1	leucine zipper and EF-hand containing transmembrane protein 1	3954	1				
LGI1	leucine rich glioma inactivated 1	9211	1				
LHCGR	lutetizing hormone/choriogonadotropin receptor	3973	1				
LHX1	LIM homeobox 1	3975	1				
LIFR	LIF receptor subunit alpha	3977	1				
LIMK1	LIM domain kinase 1	3984	1				
LIPA	lipase A, lysosomal acid type	3988	1				
LIPC	lipase C, hepatic type	3990	1				
LIPH	lipase H	200879	1				
LMBRD1	LMBR1 domain containing 1	55788	1				
LMNA	lamin A/C	4000	1				
LMNB1	lamin B1	4001	1				
LMO2	LIM domain only 2	4005					1
LMX1B	LIM homeobox transcription factor 1 beta	4010	1				
LOR	loricin	16939	1				
LPAR6	lysophosphatidic acid receptor 6	10161	1				
LPIN2	lipin 2	9663	1				
LPL	lipoprotein lipase	4023	1				
LRP2	LDL receptor related protein 2	4036	1				
LRP5	LDL receptor related protein 5	4041	1				
LRKK2	leucine rich repeat kinase 2	120892	1				
LYST	lysosomal trafficking regulator	1130	1				
LZTR1	leucine zipper like transcription regulator 1	8216	1				
MAF	MAF bZIP transcription factor	4094					1
MAFB	MAF bZIP transcription factor B	9935					1
MAGT1	magnesium transporter 1	84061	1				X-linked gene
MAML2	mastermind like transcriptional coactivator 2	84441					1
MAN2B1	mannosidase alpha class 2B member 1	4125	1				
MANBA	mannosidase beta	4126	1				
MAOA	monoamine oxidase A	4128	1		1		X-linked gene
MAOB	monoamine oxidase B	4129		1			X-linked gene
MAP2K1	mitogen-activated protein kinase kinase 1	5604	1				
MAP2K2	mitogen-activated protein kinase kinase 2	5605	1				
MAP2K4	mitogen-activated protein kinase kinase 4	6416			1		1
MAP3K1	mitogen-activated protein kinase kinase kinase 1	4214	1		1		
MAP3K4	mitogen-activated protein kinase kinase kinase 4	4216			1		
MAPT	microtubule associated protein tau	4137	1				
MASP1	mannan binding lectin serine peptidase 1	5648	1				
MAT1A	methionine adenosyltransferase 1A	4143	1				
MATN3	matrilin 3	4148	1				
MATR3	matrin 3	9782	1				
MBD5	methyl-CpG binding domain protein 5	55777	1				
MBL2	mannose binding lectin 2	4153	1				
MC1R	melanocortin 1 receptor	4157	1		1		
MC2R	melanocortin 2 receptor	4158	1				
MC4R	melanocortin 4 receptor (MC4)	4160			1		
MCCC1	methylcrotonyl-CoA carboxylase 1	56922	1				
MCCC2	methylcrotonyl-CoA carboxylase 2	64087	1				
MCEE	methylmalonyl-CoA epimerase	84693	1				
MCM6	minichromosome maintenance complex component 6	4175	1				
MCOLN1	mucopolin 1	57192	1				
MDM2	MDM2 proto-oncogene	4193					1
MDM4	MDM4 regulator of P53	4194					1
MECOM	MDS1 and EVI1 complex locus	2122					1 Shibata listではEVI1
MECP2	methyl-CpG binding protein 2	4204	1				X-linked gene
MED12	mediator complex subunit 12	9968	1				1 X-linked gene
MED13L	mediator complex subunit 13 like	23389	1				
MEFV	MEFV innate immunity regulator, pyrin	4210	1				
MEGF8	multiple EGF like domains 8	1954	1				
MEN1	menin 1	4221	1				1
MEOX1	mesenchyme homeobox 1	4222	1				
MESP2	mesoderm posterior bHLH transcription factor 2	145873	1				
MET	MET proto-oncogene, receptor tyrosine kinase	4233					1
MFN2	mitofusin 2	9927	1				
MFSD8	major facilitator superfamily domain containing 8	256471	1				
MID1	midline 1	4281	1				
MIR145	microRNA 145	406937	1				
MIR146A	microRNA 146a	406938	1				
MIR17HG	miR-17-92a-1 cluster host gene	407975	1				
MITF	melanocyte inducing transcription factor	4286	1				1
MKKS	McKusick-Kaufman syndrome	8195	1				
MKRN3	makorin ring finger protein 3	7681	1				
MLC1	modulator of VRAC current 1	23209	1				

MLH1	mutL homolog 1	4292	1		1	1	
MLH3	mutL homolog 3	27030				1	
MLLT3	MLLT3 super elongation complex subunit	4300				1	
MLPH	melanophilin	79083	1				
MLYCD	malonyl-CoA decarboxylase	23417	1				
MMAA	metabolism of cobalamin associated A	166785	1				
MMAB	metabolism of cobalamin associated B	326625	1				
MMACHC	metabolism of cobalamin associated C	25974	1				
MMADHC	metabolism of cobalamin associated D	27249	1				
MMP14	matrix metalloproteinase 14	4323	1				
MMP2	matrix metalloproteinase 2	4313	1				
MMP20	matrix metalloproteinase 20	9313	1				
MMUT	methylmalonyl-CoA mutase	4594	1				
MOCOS	molybdenum cofactor sulfurase	55034	1				
MOCS1	molybdenum cofactor synthesis 1	4337	1				
MOCS2	molybdenum cofactor synthesis 2	4338	1				
MPL	MPL proto-oncogene, thrombopoietin receptor	4352	1			1	
MPLKIP	M-phase specific PLK1 interacting protein	136647	1				
MPV17	mitochondrial inner membrane protein MPV17	4358	1				
MPZ	myelin protein zero	4359	1				
MRAP	melanocortin 2 receptor accessory protein	56246	1				
MSH2	mutS homolog 2	4436	1		1	1	
MSH6	mutS homolog 6	2956	1			1	
MSTN	myostatin	2660	1				
MSX1	msh homeobox 1	4487	1				
MSX2	msh homeobox 2	4488	1				
MT-ATP6	mitochondrially encoded ATP synthase 6	4508	1				mitochondrially encoded
MT-CYB	mitochondrially encoded cytochrome b	4519	1				mitochondrially encoded
MTHFR	methylenetetrahydrofolate reductase	4524	1				
MTM1	myotubularin 1	4534	1				X-linked gene
MT-ND1	mitochondrially encoded NADH dehydrogenase 1	4535	1				mitochondrially encoded
MT-ND4	mitochondrially encoded NADH dehydrogenase 4	4538	1				mitochondrially encoded
MT-ND4L	mitochondrially encoded NADH 4L dehydrogenase	4539	1				mitochondrially encoded
MT-ND5	mitochondrially encoded NADH dehydrogenase 5	4540	1				mitochondrially encoded
MT-ND6	mitochondrially encoded NADH dehydrogenase 6	4541	1				mitochondrially encoded
MTOR	mechanistic target of rapamycin kinase	2475	1				
MTR	5-methyltetrahydrofolate-homocysteine methyltransferase	4548	1				
MTRR	5-methyltetrahydrofolate-homocysteine methyltransferase reductase	4552	1				
MT-TE	mitochondrially encoded tRNA glutamic acid	4556	1				mitochondrially encoded
MT-TH	mitochondrially encoded tRNA histidine	4564	1				mitochondrially encoded
MT-TK	mitochondrially encoded tRNA lysine	4566	1				mitochondrially encoded
MT-TL1	mitochondrially encoded tRNA leucine 1 (UUA/G)	4567	1				mitochondrially encoded
MTPP	microsomal triglyceride transfer protein	4547	1				
MT-TS1	mitochondrially encoded tRNA serine 1 (UCN)	4574	1				mitochondrially encoded
MT-TV	mitochondrially encoded tRNA valine	4577	1				mitochondrially encoded
MUC1	mucin 1, cell surface associated	4582	1				
MUTYH	mutY DNA glycosylase	4595	1			1	
MVK	mevalonate kinase	4598	1				
MYB	MYB proto-oncogene, transcription factor	4602				1	
MYBPC1	myosin binding protein C1	4604	1				
MYBPC3	myosin binding protein C3	4607	1				
MYC	MYC proto-oncogene, bHLH transcription factor	4609				1	
MYCL	MYCL proto-oncogene, bHLH transcription factor	4610				1	Shibata listではMYCL1
MYCN	MYCN proto-oncogene, bHLH transcription factor	4613	1				
MYD88	MYD88 innate immune signal transduction adaptor	4615	1			1	
MYH11	myosin heavy chain 11	4629	1				
MYH3	myosin heavy chain 3	4621	1				
MYH6	myosin heavy chain 6	4624	1				
MYH7	myosin heavy chain 7	4625	1				
MYH9	myosin heavy chain 9	4627	1				
MYO5A	myosin VA	4644	1				
MYO5B	myosin VB	4645	1				
MYO7A	myosin VIIA	4647	1				
MYOC	myocilin	4653	1				
MYOT	myotilin	9499	1				
NAGA	alpha-N-acetylgalactosaminidase	4668	1				
NAGLU	N-acetyl-alpha-glucosaminidase	4669	1				
NAGS	N-acetylglutamate synthase	162417	1				
NBEAL2	neurobeachin like 2	23218	1				
NBN	nibrin	4683	1				
NCF1	neutrophil cytosolic factor 1	653361	1				
NCF2	neutrophil cytosolic factor 2	4688	1				
NCF4	neutrophil cytosolic factor 4	4689	1				
NCOA2	nuclear receptor coactivator 2	10499				1	
NCOA4	nuclear receptor coactivator 4	8031				1	
NCSTN	nicastatin	23385	1				
NDP	norrin cystine knot growth factor NDP	4693	1				X-linked gene
NEB	nebulin	4703	1				
NEU1	neuraminidase 1	4758	1				
NF1	neurofibromin 1	4763	1		1	1	
NF2	neurofibromin 2	4771	1			1	
NFE2L2	nuclear factor, erythroid 2 like 2	4780				1	
NFKB2	nuclear factor kappa B subunit 2	4791				1	
NFKBIA	NFKB inhibitor alpha	4792	1				
NFU1	NFU1 iron-sulfur cluster scaffold	27247	1				
NGF	nerve growth factor	4803	1				
NGLY1	N-glycanase 1	55768	1				
NHLRC1	NHL repeat containing E3 ubiquitin protein ligase 1	378884	1				
NIN	ninein	51199				1	
NIPBL	NIPBL cohesin loading factor	25836	1				
NKX2-1	NK2 homeobox 1	7080	1				
NLRP1	NLR family pyrin domain containing 1	22861	1				
NLRP12	NLR family pyrin domain containing 12	91662	1				
NLRP3	NLR family pyrin domain containing 3	114548	1				
NLRP7	NLR family pyrin domain containing 7	199713	1				
NNT	nicotinamide nucleotide transhydrogenase	23530	1				
NOD2	nucleotide binding oligomerization domain containing 2	64127	1				
NOG	noggin	9241	1				

NONO	non-POU domain containing octamer binding	4841				1	X-linked gene
NOP56	NOP56 ribonucleoprotein	10528	1				
NOTCH1	notch receptor 1	4851	1			1	
NOTCH2	notch receptor 2	4853	1			1	
NOTCH3	notch receptor 3	4854	1				
NPC1	NPC intracellular cholesterol transporter 1	4864	1				
NPC2	NPC intracellular cholesterol transporter 2	10577	1				
NPHP1	nephrocystin 1	4867	1				
NPHS1	NPHS1 adhesion molecule, nephrin	4868	1				
NPHS2	NPHS2 stomatin family member, podocin	7827	1				
NPM1	nucleophosmin 1	4869	1			1	
NPRL2	NPR2 like, GATOR1 complex subunit	10641	1				
NPRL3	NPR3 like, GATOR1 complex subunit	8131	1				
NPY1R	neuropeptide Y receptor Y1	4886		1			
NR0B1	nuclear receptor subfamily 0 group B member 1	190	1				X-linked gene
NR3C1	glucocorticoid receptor	2908		1			
NR3C2	nuclear receptor subfamily 3 group C member 2	4306	1				
NR4A3	nuclear receptor subfamily 4 group A member 3	8013				1	
NR5A1	nuclear receptor subfamily 5 group A member 1	2516	1				
NRAS	NRAS proto-oncogene, GTPase	4893	1			1	
NSD1	nuclear receptor binding SET domain protein 1	64324	1			1	
NSD2	nuclear receptor binding SET domain protein 2	7468	1				
NSDHL	NAD(P) dependent steroid dehydrogenase-like	50814	1				X-linked gene
NTRK1	neurotrophic receptor tyrosine kinase 1	4914	1			1	
NTRK3	neurotrophic receptor tyrosine kinase 3	4916				1	
NUP214	nucleoporin 214	8021				1	
NUP98	nucleoporin 98	4928				1	
NYX	nyctalopin	60506	1				X-linked gene
OAT	ornithine aminotransferase	4942	1				
OBSL1	obscurin like cytoskeletal adaptor 1	23363	1				
OCA2	OCA2 melanosomal transmembrane protein	4948	1				
OCRL	OCRL inositol polyphosphate-5-phosphatase	4952	1				X-linked gene
OFD1	OFD1 centriole and centriolar satellite protein	8481	1				X-linked gene
OPA1	OPA1 mitochondrial dynamin like GTPase	4976	1				
OPA3	outer mitochondrial membrane lipid metabolism regulator OPA3	80207	1				
OPN1LW	opsin 1, long wave sensitive	5956	1				X-linked gene
OPN1MW	opsin 1, medium wave sensitive	2652	1				
OPN1SW	opsin 1, short wave sensitive	611	1				
OPRD1	opioid receptor delta 1	4985		1			
OPRK1	opioid receptor kappa 1	4986		1			
OPRM1	opioid receptor mu 1	4988	1	1			
ORC1	origin recognition complex subunit 1	4998	1				
ORC4	origin recognition complex subunit 4	5000	1				
ORC6	origin recognition complex subunit 6	23594	1				
OSMR	oncostatin M receptor	9180	1				
OTC	ornithine carbamoyltransferase	5009	1				X-linked gene
OTULIN	OTU deubiquitinase with linear linkage specificity	90268	1				
OTX2	orthodenticle homeobox 2	5015	1				
OXCT1	3-oxoacid CoA-transferase 1	5019	1				
P3H1	prolyl 3-hydroxylase 1	64175	1				
PABPN1	poly(A) binding protein nuclear 1	8106	1				
PACS1	phosphofurin acidic cluster sorting protein 1	55690	1				
PADI3	peptidyl arginine deiminase 3	51702	1				
PAFAH1B1	platelet activating factor acetylhydrolase 1b regulatory subunit 1	5048	1				
PAH	phenylalanine hydroxylase	5053	1				
PALB2	partner and localizer of BRCA2	79728			1	1	
PANK2	pantothenate kinase 2	80025	1				
PARK7	Parkinsonism associated deglycase	11315	1				
PAX2	paired box 2	5076	1				
PAX3	paired box 3	5077	1				
PAX6	paired box 6	5080	1				
PAX8	paired box 8	7849	1			1	
PBRM1	polybromo 1	55193			1	1	
PC	pyruvate carboxylase	5091	1				
PCBD1	pterin-4 alpha-carbinolamine dehydratase 1	5092	1				
PCCA	propionyl-CoA carboxylase subunit alpha	5095	1				
PCCB	propionyl-CoA carboxylase subunit beta	5096	1				
PCNT	pericentrin	5116	1				
PCSK9	proprotein convertase subtilisin/kexin type 9	255738	1				
PDCD10	programmed cell death 10	11235	1				
PDE3A	phosphodiesterase 3A	5139		1			
PDE3B	phosphodiesterase 3B	5140		1			
PDE4D	phosphodiesterase 4D	5144		1			
PDE4DIP	phosphodiesterase 4D interacting protein	9659				1	
PDE6B	phosphodiesterase 6B	5158	1				
PDE6C	phosphodiesterase 6C	5146	1				
PDE6H	phosphodiesterase 6H	5149	1				
PDGFB	platelet derived growth factor subunit B	5155	1			1	
PDGFRA	platelet derived growth factor receptor alpha	5156	1			1	
PDGFRB	platelet derived growth factor receptor beta	5159	1			1	
PDHA1	pyruvate dehydrogenase E1 subunit alpha 1	5160	1				X-linked gene
PDHB	pyruvate dehydrogenase E1 subunit beta	5162	1				
PDHX	pyruvate dehydrogenase complex component X	8050	1				
PDP1	pyruvate dehydrogenase phosphatase catalytic subunit 1	54704	1				
PEPD	peptidase D	5184	1				
PEX1	peroxisomal biogenesis factor 1	5189	1				
PEX7	peroxisomal biogenesis factor 7	5191	1				
PFKM	phosphofructokinase, muscle	5213	1				
PGAM2	phosphoglycerate mutase 2	5224	1				
PGAP2	post-GPI attachment to proteins 2	27315	1				
PGK1	phosphoglycerate kinase 1	5230	1				X-linked gene
PGR	progesterone receptor	5241		1			
PHEX	phosphate regulating endopeptidase homolog X-linked	5251	1				X-linked gene
PHF21A	PHD finger protein 21A	51317	1				
PHF8	PHD finger protein 8	23133	1				X-linked gene
PHGDH	phosphoglycerate dehydrogenase	26227	1				
PHKA1	phosphorylase kinase regulatory subunit alpha 1	5255	1				X-linked gene
PHKA2	phosphorylase kinase regulatory subunit alpha 2	5256	1				X-linked gene

PHKB	phosphorylase kinase regulatory subunit beta	5257	1				
PHKG2	phosphorylase kinase catalytic subunit gamma 2	5261	1				
PHOX2A	paired like homeobox 2A	401	1				
PHOX2B	paired like homeobox 2B	8929	1				
PHYH	phytanoyl-CoA 2-hydroxylase	5264	1				
PIGA	phosphatidylinositol glycan anchor biosynthesis class A	5277	1				X-linked gene
PIGO	phosphatidylinositol glycan anchor biosynthesis class O	84720	1				
PIGV	phosphatidylinositol glycan anchor biosynthesis class V	56650	1				
PIK3CA	phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit alpha	5290	1			1	
PIK3CD	phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit delta	5293	1				
PIK3R1	phosphoinositide-3-kinase regulatory subunit 1	5295	1		1	1	
PIK3R2	phosphoinositide-3-kinase regulatory subunit 2	5296	1		1		
PIM1	Pim-1 proto-oncogene, serine/threonine kinase	5292				1	
PINK1	PTEN induced kinase 1	65018	1				
PITX1	paired like homeodomain 1	5307	1				
PITX2	paired like homeodomain 2	5308	1				
PKD1	polycystin 1, transient receptor potential channel interacting	5310	1				
PKD2	polycystin 2, transient receptor potential cation channel	5311	1				
PKHD1	PKHD1 ciliary IPT domain containing fibrocystin/polyductin	5314	1				
PKLR	pyruvate kinase L/R	5313	1				
PKP2	plakophilin 2	5318	1				
PLA2G6	phospholipase A2 group VI	8398	1				
PLAG1	PLAG1 zinc finger	5324				1	
PLAGL1	PLAG1 like zinc finger 1	5325	1				
PLCB4	phospholipase C beta 4	5332	1				
PLEC	plectin	5339	1				
PLG	plasminogen	5340	1				
PLOD1	procollagen-lysine,2-oxoglutarate 5-dioxygenase 1	5351	1				
PLP1	proteolipid protein 1	5354	1				X-linked gene
PML	promyelocytic leukemia	5371	1			1	
PMM2	phosphomannomutase 2	5373	1				
PMP22	peripheral myelin protein 22	5376	1				
PMS2	PMS1 homolog 2, mismatch repair system component	5395	1			1	
PNKD	PNKD metallo-beta-lactamase domain containing	25953	1				
PNKP	polynucleotide kinase 3'-phosphatase	11284	1				
PNP	purine nucleoside phosphorylase	4860	1				
PNPLA2	patatin like phospholipase domain containing 2	57104	1				
PNPLA3	patatin like phospholipase domain containing 3	80339	1				
PNPLA6	patatin like phospholipase domain containing 6	10908	1				
PNPO	pyridoxamine 5'-phosphate oxidase	55163	1				
POFUT1	protein O-fucosyltransferase 1	23509	1				
POGLUT1	protein O-glucosyltransferase 1	56983	1				
POGZ	pogo transposable element derived with ZNF domain	23126	1				
POLD1	DNA polymerase delta 1, catalytic subunit	5424			1		
POLE	DNA polymerase epsilon, catalytic subunit	5426			1	1	
POLG	DNA polymerase gamma, catalytic subunit	5428	1				
POLH	DNA polymerase eta	5429	1			1	
POLR1C	RNA polymerase I and III subunit C	9533	1				
POLR1D	RNA polymerase I and III subunit D	51082	1				
POLR3A	RNA polymerase III subunit A	11128	1				
POLR3B	RNA polymerase III subunit B	55703	1				
POMC	proopiomelanocortin	5443	1				
POMT1	protein O-mannosyltransferase 1	10585	1				
POMT2	protein O-mannosyltransferase 2	29954	1				
POR	cytochrome p450 oxidoreductase	5447	1				
PORCN	porcupine O-acyltransferase	64840	1				X-linked gene
POU3F4	POU class 3 homeobox 4	5456	1				X-linked gene
PPARG	peroxisome proliferator activated receptor gamma	5468			1	1	
PPOX	protoporphyrinogen oxidase	5498	1				
PPP2R1A	protein phosphatase 2 scaffold subunit Aalpha	5518				1	
PPP2R5D	protein phosphatase 2 regulatory subunit B'delta	5528	1				
PPT1	palmitoyl-protein thioesterase 1	5538	1				
PQBP1	polyglutamine binding protein 1	10084	1				X-linked gene
PRF1	perforin 1	5551	1				
PRICKLE1	prickle planar cell polarity protein 1	144165	1				
PRKAG2	protein kinase AMP-activated non-catalytic subunit gamma 2	51422	1				
PRKARIA	protein kinase cAMP-dependent type I regulatory subunit alpha	5573	1			1	
PRKCA	protein kinase C alpha	5578			1		
PRKCB	protein kinase C beta	5579			1		
PRKCD	protein kinase C delta	5580			1		
PRKCE	protein kinase C epsilon	5581			1		
PRKCG	protein kinase C gamma	5582			1		
PRKCH	protein kinase C eta	5583			1		
PRKCI	protein kinase C iota	5584			1		
PRKCQ	protein kinase C theta	5588			1		
PRKCZ	protein kinase C zeta	5590			1		
PRKN	parkin RBR E3 ubiquitin protein ligase	5071	1				
PRKRA	protein activator of interferon induced protein kinase EIF2AK2	8575	1				
PRNP	prion protein	5621	1				
PROC	protein C, inactivator of coagulation factors Va and VIIIa	5624	1				
PRODH	proline dehydrogenase 1	5625	1				
PROK2	prokineticin 2	60675	1				
PROKR2	prokineticin receptor 2	128674	1				
PROPI	PROP paired-like homeobox 1	5626	1				
PROS1	protein S	5627	1				
PRPH2	peripherin 2	5961	1				
PRPS1	phosphoribosyl pyrophosphate synthetase 1	5631	1				X-linked gene
PRRT2	proline rich transmembrane protein 2	112476	1				
PRSS1	serine protease 1	5644	1				
PSAP	prosaposin	5660	1				
PSEN1	presenilin 1	5663	1				
PSEN2	presenilin 2	5664	1				
PSENEN	presenilin enhancer, gamma-secretase subunit	55851	1				
PSMB8	proteasome 20S subunit beta 8	5696	1				
PTAFR	platelet activating factor receptor	5724			1		
PTCH1	patched 1	5727	1			1	1
PTEN	phosphatase and tensin homolog	5728	1			1	1
PTGS1	prostaglandin-endoperoxide synthase 1	5742			1		

PTGS2	prostaglandin-endoperoxide synthase 2	5743		1		
PTPN11	protein tyrosine phosphatase non-receptor type 11	5781	1			1
PTPN22	protein tyrosine phosphatase non-receptor type 22	26191	1			
PTS	6-pyruvoyltetrahydropterin synthase	5805	1			
PURA	purine rich element binding protein A	5813	1			
PYGL	glycogen phosphorylase L	5836	1			
PYGM	glycogen phosphorylase, muscle associated	5837	1			
QDPR	quinoid dihydropteridine reductase	5860	1			
RAB18	RAB18, member RAS oncogene family	22931	1			
RAB23	RAB23, member RAS oncogene family	51715	1			
RAB27A	RAB27A, member RAS oncogene family	5873	1			
RAB3GAP1	RAB3 GTPase activating protein catalytic subunit 1	22930	1			
RAB3GAP2	RAB3 GTPase activating non-catalytic protein subunit 2	25782	1			
RAD21	RAD21 cohesin complex component	5885	1			
RAD51	RAD51 recombinase	5888	1			
RAD51C	RAD51 paralog C	5889			1	1
RAF1	Raf-1 proto-oncogene, serine/threonine kinase	5894	1			1
RAG1	recombination activating 1	5896	1			
RAG2	recombination activating 2	5897	1			
RAI1	retinoic acid induced 1	10743	1			
RANBP2	RAN binding protein 2	5903	1			
RAPSN	receptor associated protein of the synapse	5913	1			
RARA	retinoic acid receptor alpha	5914	1			
RARS2	arginyl-tRNA synthetase 2, mitochondrial	57038	1			
RASA1	RAS p21 protein activator 1	5921	1			
RB1	RB transcriptional corepressor 1	5925	1		1	1
RBM8A	RNA binding motif protein 8A	9939	1			
RBPJ	recombination signal binding protein for immunoglobulin kappa J region	3516	1			
RDH5	retinol dehydrogenase 5	5959	1			
RECQL4	RecQ like helicase 4	9401	1			
REEP1	receptor accessory protein 1	65055	1			
REL	REL proto-oncogene, NF-kB subunit	5966				1
RELN	reelin	5649	1			
REN	renin	5972	1			
RERE	arginine-glutamic acid dipeptide repeats	473	1			
RET	ret proto-oncogene	5979	1			1
RETREG1	reticulophagy regulator 1	54463	1			
RFX5	regulatory factor X5	5993	1			
RFXANK	regulatory factor X associated ankyrin containing protein	8625	1			
RFXAP	regulatory factor X associated protein	5994	1			
RGS9	regulator of G protein signaling 9	8787	1			
RGS9BP	regulator of G protein signaling 9 binding protein	388531	1			
RHO	rhodopsin	6010	1			
RIT1	Ras like without CAAX 1	6016	1			
RMRP	RNA component of mitochondrial RNA processing endoribonuclease	6023	1			
RNASEH2A	ribonuclease H2 subunit A	10535	1			
RNASEH2B	ribonuclease H2 subunit B	79621	1			
RNASEH2C	ribonuclease H2 subunit C	84153	1			
RNASET2	ribonuclease T2	8635	1			
RNF213	ring finger protein 213	57674	1			1
RNF216	ring finger protein 216	54476	1			
ROBO3	roundabout guidance receptor 3	64221	1			
ROR2	receptor tyrosine kinase like orphan receptor 2	4920	1			
ROS1	ROS proto-oncogene 1, receptor tyrosine kinase	6098				1
RP2	RP2, ARL3 GTPase activating protein	6102	1			X-linked gene
RPE65	retinoid isomerohydrolase RPE65	6121	1			
RPGR	retinitis pigmentosa GTPase regulator	6103	1			X-linked gene
RPL11	ribosomal protein L11	6135	1			
RPL35A	ribosomal protein L35a	6165	1			
RPL5	ribosomal protein L5	6125	1			
RPS10	ribosomal protein S10	6204	1			
RPS14	ribosomal protein S14	6208	1			
RPS17	ribosomal protein S17	6208	1			
RPS19	ribosomal protein S19	6223	1			
RPS24	ribosomal protein S24	6229	1			
RPS26	ribosomal protein S26	6231	1			
RPS6KA3	ribosomal protein S6 kinase A3	6197	1			
RPSA	ribosomal protein SA	3921	1			
RRM2B	ribonucleotide reductase regulatory TP53 inducible subunit M2B	50484	1			
RS1	retinoschisin 1	6247	1			X-linked gene
RSPO4	R-spondin 4	343637	1			
RUNX1	RUNX family transcription factor 1	861	1			1
RUNX1T1	RUNX1 partner transcriptional co-repressor 1	862	1			
RUNX2	RUNX family transcription factor 2	860	1			
RYR1	ryanodine receptor 1	6261	1			
RYR2	ryanodine receptor 2	6262	1			
SAA1	serum amyloid A1	6288	1			
SACS	sacsin molecular chaperone	26278	1			
SALL1	spalt like transcription factor 1	6299	1			
SALL4	spalt like transcription factor 4	57167	1			
SAMD9L	sterile alpha motif domain containing 9 like	219285	1			
SAMHD1	SAM and HD domain containing deoxynucleoside triphosphate triphosphatase	25939	1			
SAR1B	secretion associated Ras related GTPase 1B	51128	1			
SATB2	SATB homeobox 2	23314	1			
SBDS	SBDS ribosome maturation factor	51119	1			
SCARB2	scavenger receptor class B member 2	950	1			
SCN10A	sodium voltage-gated channel alpha subunit 10	6336	1			
SCN1A	sodium voltage-gated channel alpha subunit 1	6323	1			
SCN2A	sodium voltage-gated channel alpha subunit 2	6326		1		
SCN4A	sodium voltage-gated channel alpha subunit 4	6329	1			
SCN5A	sodium voltage-gated channel alpha subunit 5	6331	1			
SCN8A	sodium voltage-gated channel alpha subunit 8	6334	1			
SCN9A	sodium voltage-gated channel alpha subunit 9	6335	1			
SCNN1A	sodium channel epithelial 1 subunit alpha	6337	1			
SCNN1B	sodium channel epithelial 1 subunit beta	6338	1			
SCNN1G	sodium channel epithelial 1 subunit gamma	6340	1			
SDHA	succinate dehydrogenase complex flavoprotein subunit A	6389	1			
SDHAF2	succinate dehydrogenase complex assembly factor 2	54949	1			

SDHB	succinate dehydrogenase complex iron sulfur subunit B	6390	1			1
SDHC	succinate dehydrogenase complex subunit C	6391	1			
SDHD	succinate dehydrogenase complex subunit D	6392	1			1
SEC23B	SEC23 homolog B, COPII coat complex component	10483	1			
SELENON	selenoprotein N	57190	1			
SEPSECS	Sep (O-phosphoserine) tRNA:Sec (selenocysteine) tRNA synthase	51091	1			
SEPTIN9	septin 9	10801	1			
SERAC1	serine active site containing 1	84947	1			
SERPINA1	serpin family A member 1	5265	1			
SERPINA6	serpin family A member 6	866	1			
SERPINA7	serpin family A member 7	6906	1			X-linked gene
SERPINC1	serpin family C member 1	462	1			
SERPINE1	serpin family E member 1	5054	1			
SERPING1	serpin family G member 1	710	1			
SERPINI1	serpin family I member 1	5274	1			
SETBP1	SET binding protein 1	26040	1		1	
SETD2	SET domain containing 2, histone lysine methyltransferase	29072			1	1
SETX	senataxin	23064	1			
SF3B1	splicing factor 3b subunit 1	23451				1
SF3B4	splicing factor 3b subunit 4	10262	1			
SFRP4	secreted frizzled related protein 4	6424	1			
SFTPB	surfactant protein B	6439	1			
SFTPC	surfactant protein C	6440	1			
SGCA	sarcoglycan alpha	6442	1			
SGCB	sarcoglycan beta	6443	1			
SGCD	sarcoglycan delta	6444	1			
SGCE	sarcoglycan epsilon	8910	1			
SGCG	sarcoglycan gamma	6445	1			
SGO1	shugoshin 1	151648	1			
SGSH	N-sulfoglucosamine sulfohydrolase	6448	1			
SH2D1A	SH2 domain containing 1A	4068	1			X-linked gene
SH3BP2	SH3 domain binding protein 2	6452	1			
SH3GL1	SH3 domain containing GRB2 like 1, endophilin A2	6455				1
SHANK3	SH3 and multiple ankyrin repeat domains 3	85358	1			
SHH	sonic hedgehog signaling molecule	6469	1			
SHOX	short stature homeobox	6473	1			X-linked gene
SI	sucrase-isomaltase	6476	1			
SIL1	SIL1 nucleotide exchange factor	64374	1			
SIX1	SIX homeobox 1	6495	1			
SIX3	SIX homeobox 3	6496	1			
SIX5	SIX homeobox 5	147912	1			
SKI	SKI proto-oncogene	6497	1			
SKIV2L	Ski2 like RNA helicase	6499	1			
SLC11A2	solute carrier family 11 member 2	4891	1			
SLC12A1	solute carrier family 12 member 1	6557	1			
SLC12A3	solute carrier family 12 member 3	6559	1			
SLC12A6	solute carrier family 12 member 6	9990	1			
SLC16A2	solute carrier family 16 member 2	6567	1			X-linked gene
SLC17A5	solute carrier family 17 member 5	26503	1			
SLC19A2	solute carrier family 19 member 2	10560	1			
SLC19A3	solute carrier family 19 member 3	80704	1			
SLC1A3	solute carrier family 1 member 3	6507	1			
SLC20A2	solute carrier family 20 member 2	6575	1			
SLC22A12	solute carrier family 22 member 12	116085	1			
SLC22A5	solute carrier family 22 member 5	6584	1			
SLC25A1	solute carrier family 25 member 1	6576	1			
SLC25A13	solute carrier family 25 member 13	10165	1			
SLC25A15	solute carrier family 25 member 15	10166	1			
SLC25A19	solute carrier family 25 member 19	60386	1			
SLC25A20	solute carrier family 25 member 20	788	1			
SLC25A24	solute carrier family 25 member 24	29957	1			
SLC25A4	solute carrier family 25 member 4	291	1			
SLC26A2	solute carrier family 26 member 2	1836	1			
SLC26A4	solute carrier family 26 member 4	5172	1			
SLC29A1	solute carrier family 29 member 1 (Augustine blood group)	2030		1		
SLC29A3	solute carrier family 29 member 3	55315	1			
SLC2A1	solute carrier family 2 member 1	6513	1			
SLC2A10	solute carrier family 2 member 10	81031	1			
SLC2A9	solute carrier family 2 member 9	56606	1			
SLC30A10	solute carrier family 30 member 10	55532	1			
SLC34A1	solute carrier family 34 member 1	6569	1			
SLC34A2	solute carrier family 34 member 2	10568	1			
SLC35A2	solute carrier family 35 member A2	7355	1			X-linked gene
SLC37A4	solute carrier family 37 member 4	2542	1			
SLC39A14	solute carrier family 39 member 14	23516	1			
SLC3A1	solute carrier family 3 member 1	6519	1			
SLC40A1	solute carrier family 40 member 1	30061	1			
SLC45A2	solute carrier family 45 member 2	51151	1			
SLC46A1	solute carrier family 46 member 1	113235	1			
SLC4A1	solute carrier family 4 member 1 (Diego blood group)	6521	1			
SLC52A2	solute carrier family 52 member 2	79581	1			
SLC52A3	solute carrier family 52 member 3	113278	1			
SLC5A1	solute carrier family 5 member 1	6523	1			
SLC5A5	solute carrier family 5 member 5	6528	1			
SLC6A1	solute carrier family 6 member 1	6529		1		
SLC6A19	solute carrier family 6 member 19	340024	1			
SLC6A2	solute carrier family 6 member 2	6530		1		
SLC6A3	solute carrier family 6 member 3	6531	1	1		
SLC6A4	solute carrier family 6 member 4	6532		1		
SLC6A8	solute carrier family 6 member 8	6535	1			X-linked gene
SLC7A7	solute carrier family 7 member 7	9056	1			
SLC7A9	solute carrier family 7 member 9	11136	1			
SLC9A6	solute carrier family 9 member A6	10479	1			X-linked gene
SLC01B1	solute carrier organic anion transporter family member 1B1	10599	1			
SLC01B3	solute carrier organic anion transporter family member 1B3	28234	1			
SLITRK1	SLIT and NTRK like family member 1	114798	1			
SLITRK6	SLIT and NTRK like family member 6	84189	1			
SLURP1	secreted LY6/PLAUR domain containing 1	57152	1			

SLX4	SLX4 structure-specific endonuclease subunit	84464				1	Shibata listではFANCP
SMAD3	SMAD family member 3	4088	1				
SMAD4	SMAD family member 4	4089	1		1	1	
SMARCA2	SWI/SNF related, matrix associated, actin dependent regulator of chromatin	6595	1				
SMARCA4	SWI/SNF related, matrix associated, actin dependent regulator of chromatin	6597	1		1	1	NCCではSMARCA4/BRG1
SMARCA4L	SWI/SNF-related, matrix-associated actin-dependent regulator of chromatin	56916	1				
SMARCA1	SWI/SNF related, matrix associated, actin dependent regulator of chromatin	50485	1				
SMARCB1	SWI/SNF related, matrix associated, actin dependent regulator of chromatin	6598	1		1	1	
SMARCE1	SWI/SNF related, matrix associated, actin dependent regulator of chromatin	6605	1				
SMC1A	structural maintenance of chromosomes 1A	8243	1				X-linked gene
SMC3	structural maintenance of chromosomes 3	9126	1				
SMCHD1	structural maintenance of chromosomes flexible hinge domain containing	23347	1				
SMN1	survival of motor neuron 1, telomeric	6606	1				
SMN2	survival of motor neuron 2, centromeric	6607	1				
SMO	smoothened, frizzled class receptor	6608				1	
SMOC1	SPARC related modular calcium binding 1	64093	1				
SMPD1	sphingomyelin phosphodiesterase 1	6609	1				
SMS	spermine synthase	6611	1				X-linked gene
SNAI2	snail family transcriptional repressor 2	6591	1				
SNCA	synuclein alpha	6622	1				
SNCB	synuclein beta	6620	1				
SOCS1	suppressor of cytokine signaling 1	8651				1	
SOD1	superoxide dismutase 1	6647	1				
SOS1	SOS Ras/Rac guanine nucleotide exchange factor 1	6654	1				
SOST	sclerostin	50964	1				
SOX10	SRY-box transcription factor 10	6663	1				
SOX2	SRY-box transcription factor 2	6657	1				
SOX9	SRY-box transcription factor 9	6662	1				
SP110	SP110 nuclear body protein	3431	1				
SPART	spartin	23111	1				
SPAST	spastin	6683	1				
SPECC1L	sperm antigen with calponin homology and coiled-coil domains 1 like	23384	1				
SPG11	SPG11 vesicle trafficking associated, spatacsin	80208	1				
SPG7	SPG7 matrix AAA peptidase subunit, paraplegin	6687	1				
SPINK5	serine peptidase inhibitor Kazal type 5	11005	1				
SPR	sepiapterin reductase	6697	1				
SPRED1	sprouty related EVH1 domain containing 1	161742	1				
SPTLC1	serine palmitoyltransferase long chain base subunit 1	558	1				
SQSTM1	sequestosome 1	8878	1				
SRCAP	Snf2 related CREBBP activator protein	10847	1				
SRD5A2	steroid 5 alpha-reductase 2	6716	1				
SRGAP3	SLIT-ROBO Rho GTPase activating protein 3	9901				1	
SRSF2	serine and arginine rich splicing factor 2	6427				1	
SRY	sex determining region Y	6736	1				
SS18	SS18 subunit of BAF chromatin remodeling complex	6760				1	
ST3GAL5	ST3 beta-galactoside alpha-2,3-sialyltransferase 5	8869	1				
STAMBP	STAM binding protein	10617	1				
STAT1	signal transducer and activator of transcription 1	6772	1				
STAT3	signal transducer and activator of transcription 3	6774	1			1	
STAT4	signal transducer and activator of transcription 4	6775	1				
STIM1	stromal interaction molecule 1	6786	1				
STING1	stimulator of interferon response cGAMP interactor 1	340061	1				GHRではTMEM173
STK11	serine/threonine kinase 11	6794	1		1	1	NCCではSTK11/LKB1
STRC	stereocilin	161497	1				
STXBP1	syntaxin binding protein 1	6812	1				
SUCLA2	succinate-CoA ligase ADP-forming subunit beta	8803	1				
SUCLG1	succinate-CoA ligase GDP/ADP-forming subunit alpha	8802	1				
SUFU	SUFU negative regulator of hedgehog signaling	51684				1	
SUMF1	sulfatase modifying factor 1	285362	1				
SUOX	sulfite oxidase	6821	1				
SURF1	SURF1 cytochrome c oxidase assembly factor	6834	1				
SUZ12	SUZ12 polycomb repressive complex 2 subunit	23512				1	
SYK	spleen associated tyrosine kinase	6850				1	
SYNE1	spectrin repeat containing nuclear envelope protein 1	23345	1				
SYNGAP1	synaptic Ras GTPase activating protein 1	8831	1				
TACR1	tachykinin receptor 1	6869		1			
TAF1	TATA-box binding protein associated factor 1	6872	1				X-linked gene
TAP1	transporter 1, ATP binding cassette subfamily B member	6890	1				
TAP2	transporter 2, ATP binding cassette subfamily B member	6891	1				
TARDBP	TAR DNA binding protein	23435	1				
TAT	tyrosine aminotransferase	6898	1				
TAZ	tafazzin	6901	1				X-linked gene
TBC1D20	TBC1 domain family member 20	128637	1				
TBC1D24	TBC1 domain family member 24	57465	1				
TBP	TATA-box binding protein	6908	1				
TBX1	T-box transcription factor 1	6899	1				
TBX5	T-box transcription factor 5	6910	1				
TBXAS1	thromboxane A synthase 1	6916	1				
TBXT	T-box transcription factor T	6862	1				
TCF3	transcription factor 3	6929				1	
TCF4	transcription factor 4	6925	1				
TCHH	trichohyalin	7062	1				
TCIRG1	T cell immune regulator 1, ATPase H+ transporting V0 subunit a3	10312	1				
TCL1A	T cell leukemia/lymphoma 1A	8115				1	
TCN2	transcobalamin 2	6948	1				
TCOF1	treacle ribosome biogenesis factor 1	6949	1				
TECPR2	tectorin beta-propeller repeat containing 2	9895	1				
TECTA	tectorin alpha	7007	1				
TEK	TEK receptor tyrosine kinase	7010	1				
TERC	telomerase RNA component	7012	1				
TERT	telomerase reverse transcriptase	7015	1				
TET2	tet methylcytosine dioxygenase 2	54790	1			1	
TFAP2A	transcription factor AP-2 alpha	7020	1				
TFAP2B	transcription factor AP-2 beta	7021	1				
TFG	trafficking from ER to Golgi regulator	10342				1	
TFR2	transferrin receptor 2	7136	1				
TG	thyroglobulin	7038	1				
TGFB1	transforming growth factor beta 1	7040	1				

TGFB2	transforming growth factor beta 2	7042	1				
TGFB3	transforming growth factor beta 3	7043	1				
TGFB1	transforming growth factor beta induced	7045	1				
TGFBR1	transforming growth factor beta receptor 1	7046	1				
TGFBR2	transforming growth factor beta receptor 2	7048	1				
TGIF1	TGFB induced factor homeobox 1	7050	1				
TGM1	transglutaminase 1	7051	1				
TGM3	transglutaminase 3	7053	1				
TGM5	transglutaminase 5	9333	1				
TH	tyrosine hydroxylase	7054	1				
THAP1	THAP domain containing 1	55145	1				
THPO	thrombopoietin	7066	1				
TIMM8A	translocase of inner mitochondrial membrane 8A	1678	1				X-linked gene
TINF2	TERF1 interacting nuclear factor 2	26277	1				
TK2	thymidine kinase 2	7084	1				
TLX1	T cell leukemia homeobox 1	3195				1	
TMCO1	transmembrane and coiled-coil domains 1	54499	1				
TMEM127	transmembrane protein 127	55654	1				
TMEM70	transmembrane protein 70	54969	1				
TMPSR6	transmembrane serine protease 6	164656	1				
TNFAIP3	TNF alpha induced protein 3	7128				1	
TNFRSF11A	TNF receptor superfamily member 11a	8792	1				
TNFRSF11B	TNF receptor superfamily member 11b	4982	1				
TNFRSF13B	TNF receptor superfamily member 13B	23495	1				
TNFRSF1A	TNF receptor superfamily member 1A	7132	1				
TNNI2	tropoin 12, fast skeletal type	7136	1				
TNNI3	tropoin 13, cardiac type	7137	1				
TNNT2	tropoin T2, cardiac type	7139	1				
TNNT3	tropoin T3, fast skeletal type	7140	1				
TNXB	tenascin XB	7148	1				
TOR1A	torsin family 1 member A	1861	1				
TP53	tumor protein p53	7157	1		1		1
TP63	tumor protein p63	8626	1				
TPI1	triosephosphate isomerase 1	7167	1				
TPM2	tropomyosin 2	7169	1				
TPM3	tropomyosin 3	7170	1				
TPMT	thiopurine S-methyltransferase	7172	1				
TPO	thyroid peroxidase	7173	1				
TPP1	tripeptidyl peptidase 1	1200	1				
TPR	translocated promoter region, nuclear basket protein	7175					1
TRAPPC2	trafficking protein particle complex 2	6399	1				X-linked gene
TREM2	triggering receptor expressed on myeloid cells 2	54209	1				
TREX1	three prime repair exonuclease 1	11277	1				
TRIP11	thyroid hormone receptor interactor 11	9321	1				
TRIP13	thyroid hormone receptor interactor 13	9319	1				
TRNT1	tRNA nucleotidyl transferase 1	51095	1				
TRPM1	transient receptor potential cation channel subfamily M member 1	4308	1				
TRPM4	transient receptor potential cation channel subfamily M member 4	54795	1				
TRPM6	transient receptor potential cation channel subfamily M member 6	140803	1				
TRPS1	transcriptional repressor GATA binding 1	7227	1				
TRPV4	transient receptor potential cation channel subfamily V member 4	59341	1				
TSC1	TSC complex subunit 1	7248	1		1		1
TSC2	TSC complex subunit 2	7249	1				1
TSEN2	tRNA splicing endonuclease subunit 2	80746	1				
TSEN34	tRNA splicing endonuclease subunit 34	79042	1				
TSEN54	tRNA splicing endonuclease subunit 54	283989	1				
TSHB	thyroid stimulating hormone subunit beta	7252	1				
TSHR	thyroid stimulating hormone receptor	7253	1				1
TSPYL1	TSPY like 1	7259	1				
TTC37	tetratricopeptide repeat domain 37	9652	1				
TTN	titin	7273	1				
TTPA	alpha tocopherol transfer protein	7274	1				
TTR	transthyretin	7276	1				
TUBA1A	tubulin alpha 1a	7846	1				
TUBB4A	tubulin beta 4A class IVa	10382	1				
TWIST1	twist family bHLH transcription factor 1	7291	1				
TWNK	twinkle mtDNA helicase	56652	1				
TXNL4A	thioredoxin like 4A	10907	1				
TYMP	thymidine phosphorylase	1890	1				
TYR	tyrosinase	7299	1				
TYROBP	transmembrane immune signaling adaptor TYROBP	7305	1				
TYRP1	tyrosinase related protein 1	7306	1				
UBA1	ubiquitin like modifier activating enzyme 1	7317	1				X-linked gene
UBE3A	ubiquitin protein ligase E3A	7337	1				
UBE3B	ubiquitin protein ligase E3B	89910	1				
UCHL1	ubiquitin C-terminal hydrolase L1	7345	1				
UGT1A1	UDP glucuronosyltransferase family 1 member A1	54658	1				
UMOD	uromodulin	7369	1				
UNC13D	unc-13 homolog D	201294	1				
UNC80	unc-80 homolog, NALCN channel complex subunit	285175	1				
UPB1	beta-ureidopropionase 1	51733	1				
UROD	uroporphyrinogen decarboxylase	7389	1				
UROS	uroporphyrinogen III synthase	7390	1				
USB1	U6 snRNA biogenesis phosphodiesterase 1	79650	1				
USH2A	usherin	7399	1				
USP6	ubiquitin specific peptidase 6	9098				1	
UTP4	UTP4 small subunit processome component	84916	1				
UVSSA	UV stimulated scaffold protein A	57654	1				
VCAN	versican	1462	1				
VCP	valosin containing protein	7415	1				
VDR	vitamin D receptor	7421	1				
VHL	von Hippel-Lindau tumor suppressor	7428	1		1		1
VKORC1	vitamin K epoxide reductase complex subunit 1	79001	1				
VLDLR	very low density lipoprotein receptor	7436	1				
VPS13A	vacuolar protein sorting 13 homolog A	23230	1				
VPS13B	vacuolar protein sorting 13 homolog B	157680	1				
VRK1	VRK serine/threonine kinase 1	7443	1				
VWF	von Willebrand factor	7450	1				

WAS	WASP actin nucleation promoting factor	7454	1				
WASHC5	WASH complex subunit 5	9897	1				
WDR19	WD repeat domain 19	57728	1				
WDR35	WD repeat domain 35	57539	1				
WDR45	WD repeat domain 45	11152	1				
WFS1	wolframin ER transmembrane glycoprotein	7466	1				
WNK1	WNK lysine deficient protein kinase 1	65125	1				
WNK4	WNK lysine deficient protein kinase 4	65266	1				
WNT10A	Wnt family member 10A	80326	1				
WNT3	Wnt family member 3	7473	1				
WNT4	Wnt family member 4	54361	1				
WNT5A	Wnt family member 5A	7474	1				
WRN	WRN RecQ like helicase	7486	1			1	
WT1	WT1 transcription factor	7490	1			1	
XDH	xanthine dehydrogenase	7495	1				
XIAP	X-linked inhibitor of apoptosis	331	1				X-linked gene
XK	X-linked Kx blood group	7504	1				X-linked gene
XPA	XPA, DNA damage recognition and repair factor	7507	1			1	
XPC	XPC complex subunit, DNA damage recognition and repair factor	7508	1			1	
YWHAE	tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activatio	7531	1				
YY1AP1	YY1 associated protein 1	55249	1				
ZAP70	zeta chain of T cell receptor associated protein kinase 70	7535	1				
ZEB2	zinc finger E-box binding homeobox 2	9839	1				
ZFP57	ZFP57 zinc finger protein	346171	1				
ZFYVE26	zinc finger FYVE-type containing 26	23503	1				
ZIC2	Zic family member 2	7546	1				
ZMPSTE24	zinc metalloproteinase STE24	10269	1				
ZMYM2	zinc finger MYM-type containing 2	7750	1				
ZNF341	zinc finger protein 341	84905	1				
ZNF521	zinc finger protein 521	25925				1	