

**Dept. of Molecular Medicine (MOMA), Aarhus University Hospital, Denmark
MOMA Exome Endocrinology v5 (2021-06-08), 479 genes**

Approved symbol	Approved Name	HGNC ID	Location
AAAS	aladin WD repeat nucleoporin	HGNC:13666	12q13.13
AARS2	alanyl-tRNA synthetase 2, mitochondrial	HGNC:21022	6p21.1
ABCC8	ATP binding cassette subfamily C member 8	HGNC:59	11p15.1
AGPAT2	1-acylglycerol-3-phosphate O-acyltransferase 2	HGNC:325	9q34.3
AIP	aryl hydrocarbon receptor interacting protein	HGNC:358	11q13.2
AIRE	autoimmune regulator	HGNC:360	21q22.3
AKR1B1	aldo-keto reductase family 1 member B	HGNC:381	7q33
AKR1C2	aldo-keto reductase family 1 member C2	HGNC:385	10p15.1
AKR1C4	aldo-keto reductase family 1 member C4	HGNC:387	10p15.1
AKT2	AKT serine/threonine kinase 2	HGNC:392	19q13.2
ALB	albumin	HGNC:399	4q13.3
ALMS1	ALMS1 centrosome and basal body associated protein	HGNC:428	2p13.1
ALPL	alkaline phosphatase, biomineralization associated	HGNC:438	1p36.12
AMER1	APC membrane recruitment protein 1	HGNC:26837	Xq11.2
AMH	anti-Mullerian hormone	HGNC:464	19p13.3
AMHR2	anti-Mullerian hormone receptor type 2	HGNC:465	12q13.13
AMMECR1	AMMECR nuclear protein 1	HGNC:467	Xq23
ANKH	ANKH inorganic pyrophosphate transport regulator	HGNC:15492	5p15.2
ANKRD11	ankyrin repeat domain 11	HGNC:21316	16q24.3
ANOS1	anosmin 1	HGNC:6211	Xp22.31
AP2S1	adaptor related protein complex 2 subunit sigma 1	HGNC:565	19q13.32
APOA2	apolipoprotein A2	HGNC:601	1q23.3
APPL1	adaptor protein, phosphotyrosine interacting with PH domain and leucine zipper 1	HGNC:24035	3p14.3
AQP2	aquaporin 2	HGNC:634	12q13.12
AR	androgen receptor	HGNC:644	Xq12
ARL6	ADP ribosylation factor like GTPase 6	HGNC:13210	3q11.2
ARTN	artemin	HGNC:727	1p34.1
ARX	aristaless related homeobox	HGNC:18060	Xp21.3
ATF3	activating transcription factor 3	HGNC:785	1q32.3
ATP6V0A4	ATPase H+ transporting V0 subunit a4	HGNC:866	7q34
ATP6V1B1	ATPase H+ transporting V1 subunit B1	HGNC:853	2p13.3
ATP7B	ATPase copper transporting beta	HGNC:870	13q14.3
ATRX	ATRX chromatin remodeler	HGNC:886	Xq21.1
AURKAIP1	aurora kinase A interacting protein 1	HGNC:24114	1p36.33
AVP	arginine vasopressin	HGNC:894	20p13
AVPR2	arginine vasopressin receptor 2	HGNC:897	Xq28
AXL	AXL receptor tyrosine kinase	HGNC:905	19q13.2
BBS1	Bardet-Biedl syndrome 1	HGNC:966	11q13.2
BBS10	Bardet-Biedl syndrome 10	HGNC:26291	12q21.2
BBS12	Bardet-Biedl syndrome 12	HGNC:26648	4q27
BBS2	Bardet-Biedl syndrome 2	HGNC:967	16q13
BBS4	Bardet-Biedl syndrome 4	HGNC:969	15q24.1
BBS5	Bardet-Biedl syndrome 5	HGNC:970	2q31.1
BBS7	Bardet-Biedl syndrome 7	HGNC:18758	4q27
BBS9	Bardet-Biedl syndrome 9	HGNC:30000	7p14.3
BLK	BLK proto-oncogene, Src family tyrosine kinase	HGNC:1057	8p23.1
BLM	BLM RecQ like helicase	HGNC:1058	15q26.1
BMP1	bone morphogenetic protein 1	HGNC:1067	8p21.3
BMP15	bone morphogenetic protein 15	HGNC:1068	Xp11.22
BMPRI1B	bone morphogenetic protein receptor type 1B	HGNC:1077	4q22.3
BRAF	B-Raf proto-oncogene, serine/threonine kinase	HGNC:1097	7q34
BSCL2	BSCL2 lipid droplet biogenesis associated, seipin	HGNC:15832	11q12.3
BSND	barttin CLCNK type accessory subunit beta	HGNC:16512	1p32.3
BTF3P11	basic transcription factor 3 pseudogene 11	HGNC:1126	13q22.3

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CACNA1S	calcium voltage-gated channel subunit alpha1 S	HGNC:1397	1q32.1
CASR	calcium sensing receptor	HGNC:1514	3q13.33-q21.1
CAV1	caveolin 1	HGNC:1527	7q31.2
CAVIN1	caveolae associated protein 1	HGNC:9688	17q21.2
CBL	Cbl proto-oncogene	HGNC:1541	11q23.3
CBS	cystathionine beta-synthase	HGNC:1550	21q22.3
CBX2	chromobox 2	HGNC:1552	17q25.3
CCDC141	coiled-coil domain containing 141	HGNC:26821	2q31.2
CCDC8	coiled-coil domain containing 8	HGNC:25367	19q13.32
CCND1	cyclin D1	HGNC:1582	11q13.3
CDC6	cell division cycle 6	HGNC:1744	17q21.2
CDC73	cell division cycle 73	HGNC:16783	1q31.2
CDCA8	cell division cycle associated 8	HGNC:14629	1p34.3
CDKN1A	cyclin dependent kinase inhibitor 1A	HGNC:1784	6p21.2
CDKN1B	cyclin dependent kinase inhibitor 1B	HGNC:1785	12p13.1
CDKN1C	cyclin dependent kinase inhibitor 1C	HGNC:1786	11p15.4
CDT1	chromatin licensing and DNA replication factor 1	HGNC:24576	16q24.3
CEL	carboxyl ester lipase	HGNC:1848	9q34.13
CENPJ	centromere protein J	HGNC:17272	13q12.12-q12.13
CEP19	centrosomal protein 19	HGNC:28209	3q29
CEP290	centrosomal protein 290	HGNC:29021	12q21.32
CHD7	chromodomain helicase DNA binding protein 7	HGNC:20626	8q12.2
CIDEC	cell death inducing DFFA like effector c	HGNC:24229	3p25.3
CISD2	CDGSH iron sulfur domain 2	HGNC:24212	4q24
CLCN5	chloride voltage-gated channel 5	HGNC:2023	Xp11.23
CLCN7	chloride voltage-gated channel 7	HGNC:2025	16p13.3
CLCNKB	chloride voltage-gated channel Kb	HGNC:2027	1p36.13
CLDN16	claudin 16	HGNC:2037	3q28
CLPP	caseinolytic mitochondrial matrix peptidase proteolytic subunit	HGNC:2084	19p13.3
CNKSR2	connector enhancer of kinase suppressor of Ras 2	HGNC:19701	Xp22.12
COL1A1	collagen type I alpha 1 chain	HGNC:2197	17q21.33
COL1A2	collagen type I alpha 2 chain	HGNC:2198	7q21.3
COL4A5	collagen type IV alpha 5 chain	HGNC:2207	Xq22.3
CPE	carboxypeptidase E	HGNC:2303	4q32.3
CREB3L1	cAMP responsive element binding protein 3 like 1	HGNC:18856	11p11.2
CREBBP	CREB binding protein	HGNC:2348	16p13.3
CRIPT	CXXC repeat containing interactor of PDZ3 domain	HGNC:14312	2p21
CRTAP	cartilage associated protein	HGNC:2379	3p22.3
CTSK	cathepsin K	HGNC:2536	1q21.3
CUL4B	cullin 4B	HGNC:2555	Xq24
CUL7	cullin 7	HGNC:21024	6p21.1
CYB5A	cytochrome b5 type A	HGNC:2570	18q22.3
CYP11A1	cytochrome P450 family 11 subfamily A member 1	HGNC:2590	15q24.1
CYP11B1	cytochrome P450 family 11 subfamily B member 1	HGNC:2591	8q24.3
CYP11B2	cytochrome P450 family 11 subfamily B member 2	HGNC:2592	8q24.3
CYP17A1	cytochrome P450 family 17 subfamily A member 1	HGNC:2593	10q24.32
CYP19A1	cytochrome P450 family 19 subfamily A member 1	HGNC:2594	15q21.2
CYP21A2	cytochrome P450 family 21 subfamily A member 2	HGNC:2600	6p21.33
DACH2	dachshund family transcription factor 2	HGNC:16814	Xq21.2
DCAF17	DDB1 and CUL4 associated factor 17	HGNC:25784	2q31.1
DCC	DCC netrin 1 receptor	HGNC:2701	18q21.2
DGCR2	DiGeorge syndrome critical region gene 2	HGNC:2845	22q11.21
DGCR6	DiGeorge syndrome critical region gene 6	HGNC:2846	22q11.21
DGCR6L	DiGeorge syndrome critical region gene 6 like	HGNC:18551	22q11.21
DGCR8	DGCR8 microprocessor complex subunit	HGNC:2847	22q11.21

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DHCR7	7-dehydrocholesterol reductase	HGNC:2860	11q13.4
DHH	desert hedgehog signaling molecule	HGNC:2865	12q13.12
DHX37	DEAH-box helicase 37	HGNC:17210	12q24.31
DIAPH2	diaphanous related formin 2	HGNC:2877	Xq21.33
DMP1	dentin matrix acidic phosphoprotein 1	HGNC:2932	4q22.1
DMRT1	doublesex and mab-3 related transcription factor 1	HGNC:2934	9p24.3
DMRT2	doublesex and mab-3 related transcription factor 2	HGNC:2935	9p24.3
DMTF1	cyclin D binding myb like transcription factor 1	HGNC:14603	7q21.12
DMXL2	Dmx like 2	HGNC:2938	15q21.2
DNAJC3	DnaJ heat shock protein family (Hsp40) member C3	HGNC:9439	13q32.1
DTD1	D-aminoacyl-tRNA deacylase 1	HGNC:16219	20p11.23
DUOX2	dual oxidase 2	HGNC:13273	15q21.1
DUOXA2	dual oxidase maturation factor 2	HGNC:32698	15q21.1
DYRK1B	dual specificity tyrosine phosphorylation regulated kinase 1B	HGNC:3092	19q13.2
EGLN1	egl-9 family hypoxia inducible factor 1	HGNC:1232	1q42.2
EIF2AK3	eukaryotic translation initiation factor 2 alpha kinase 3	HGNC:3255	2p11.2
EIF2B4	eukaryotic translation initiation factor 2B subunit delta	HGNC:3260	2p23.3
EIF2B5	eukaryotic translation initiation factor 2B subunit epsilon	HGNC:3261	3q27.1
EIF2S3	eukaryotic translation initiation factor 2 subunit gamma	HGNC:3267	Xp22.11
EIF4ENIF1	eukaryotic translation initiation factor 4E nuclear import factor 1	HGNC:16687	22q12.2
ENPP1	ectonucleotide pyrophosphatase/phosphodiesterase 1	HGNC:3356	6q23.2
EP300	E1A binding protein p300	HGNC:3373	22q13.2
EPAS1	endothelial PAS domain protein 1	HGNC:3374	2p21
ERCC6	ERCC excision repair 6, chromatin remodeling factor	HGNC:3438	10q11.23
ERCC8	ERCC excision repair 8, CSA ubiquitin ligase complex subunit	HGNC:3439	5q12.1
ESR2	estrogen receptor 2	HGNC:3468	14q23.2-q23.3
ESS2	ess-2 splicing factor homolog	HGNC:16817	22q11.21
FANCA	FA complementation group A	HGNC:3582	16q24.3
FANCB	FA complementation group B	HGNC:3583	Xp22.2
FANCC	FA complementation group C	HGNC:3584	9q22.32
FANCD2	FA complementation group D2	HGNC:3585	3p25.3
FANCE	FA complementation group E	HGNC:3586	6p21.31
FANCF	FA complementation group F	HGNC:3587	11p14.3
FANCG	FA complementation group G	HGNC:3588	9p13.3
FANCI	FA complementation group I	HGNC:25568	15q26.1
FANCL	FA complementation group L	HGNC:20748	2p16.1
FBF1	Fas binding factor 1	HGNC:24674	17q25.1
FBN1	fibrillin 1	HGNC:3603	15q21.1
FEZF1	FEZ family zinc finger 1	HGNC:22788	7q31.32
FGD1	FYVE, RhoGEF and PH domain containing 1	HGNC:3663	Xp11.22
FGF17	fibroblast growth factor 17	HGNC:3673	8p21.3
FGF23	fibroblast growth factor 23	HGNC:3680	12p13.32
FGF8	fibroblast growth factor 8	HGNC:3686	10q24.32
FGFR1	fibroblast growth factor receptor 1	HGNC:3688	8p11.23
FGFR2	fibroblast growth factor receptor 2	HGNC:3689	10q26.13
FIGLA	folliculogenesis specific bHLH transcription factor	HGNC:24669	2p13.3
FKBP10	FKBP prolyl isomerase 10	HGNC:18169	17q21.2
FOXA2	forkhead box A2	HGNC:5022	20p11.21
FOXE1	forkhead box E1	HGNC:3806	9q22.33
FOXL2	forkhead box L2	HGNC:1092	3q22.3
FOXP3	forkhead box P3	HGNC:6106	Xp11.23
FSHB	follicle stimulating hormone subunit beta	HGNC:3964	11p14.1
FSHR	follicle stimulating hormone receptor	HGNC:3969	2p16.3
FTO	FTO alpha-ketoglutarate dependent dioxygenase	HGNC:24678	16q12.2
GALT	galactose-1-phosphate uridylyltransferase	HGNC:4135	9p13.3

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GATA3	GATA binding protein 3	HGNC:4172	10p14
GATA4	GATA binding protein 4	HGNC:4173	8p23.1
GATA6	GATA binding protein 6	HGNC:4174	18q11.2
GCK	glucokinase	HGNC:4195	7p13
GCM2	glial cells missing transcription factor 2	HGNC:4198	6p24.2
GDF9	growth differentiation factor 9	HGNC:4224	5q31.1
GH1	growth hormone 1	HGNC:4261	17q23.3
GHR	growth hormone receptor	HGNC:4263	5p13.1-p12
GHRHR	growth hormone releasing hormone receptor	HGNC:4266	7p14.3
GLI2	GLI family zinc finger 2	HGNC:4318	2q14.2
GLI3	GLI family zinc finger 3	HGNC:4319	7p14.1
GLIS3	GLIS family zinc finger 3	HGNC:28510	9p24.2
GLUD1	glutamate dehydrogenase 1	HGNC:4335	10q23.2
GNA11	G protein subunit alpha 11	HGNC:4379	19p13.3
GNAS	GNAS complex locus	HGNC:4392	20q13.32
GNRH1	gonadotropin releasing hormone 1	HGNC:4419	8p21.2
GNRHR	gonadotropin releasing hormone receptor	HGNC:4421	4q13.2
GPC3	glypican 3	HGNC:4451	Xq26.2
GRID1	glutamate ionotropic receptor delta type subunit 1	HGNC:4575	10q23.1-q23.2
GUCY2C	guanylate cyclase 2C	HGNC:4688	12p12.3
HADH	hydroxyacyl-CoA dehydrogenase	HGNC:4799	4q25
HAMP	hepcidin antimicrobial peptide	HGNC:15598	19q13.12
HARS2	histidyl-tRNA synthetase 2, mitochondrial	HGNC:4817	5q31.3
HDAC4	histone deacetylase 4	HGNC:14063	2q37.3
HDAC8	histone deacetylase 8	HGNC:13315	Xq13.1
HESX1	HESX homeobox 1	HGNC:4877	3p14.3
HFE	homeostatic iron regulator	HGNC:4886	6p22.2
HFM1	helicase for meiosis 1	HGNC:20193	1p22.2
HJV	hemojuvelin BMP co-receptor	HGNC:4887	1q21.1
HNF1A	HNF1 homeobox A	HGNC:11621	12q24.31
HNF1B	HNF1 homeobox B	HGNC:11630	17q12
HNF4A	hepatocyte nuclear factor 4 alpha	HGNC:5024	20q13.12
HOXA13	homeobox A13	HGNC:5102	7p15.2
HOXD13	homeobox D13	HGNC:5136	2q31.1
HRAS	HRas proto-oncogene, GTPase	HGNC:5173	11p15.5
HS6ST1	heparan sulfate 6-O-sulfotransferase 1	HGNC:5201	2q14
HSD11B1	hydroxysteroid 11-beta dehydrogenase 1	HGNC:5208	1q32.2
HSD11B2	hydroxysteroid 11-beta dehydrogenase 2	HGNC:5209	16q22.1
HSD17B3	hydroxysteroid 17-beta dehydrogenase 3	HGNC:5212	9q22.32
HSD17B4	hydroxysteroid 17-beta dehydrogenase 4	HGNC:5213	5q23.1
HSD3B2	hydroxy-delta-5-steroid dehydrogenase, 3 beta- and steroid delta-isomerase 2	HGNC:5218	1p12
IER3IP1	immediate early response 3 interacting protein 1	HGNC:18550	18q21.1
IFITM5	interferon induced transmembrane protein 5	HGNC:16644	11p15.5
IGF1	insulin like growth factor 1	HGNC:5464	12q23.2
IGF1R	insulin like growth factor 1 receptor	HGNC:5465	15q26.3
IGF2	insulin like growth factor 2	HGNC:5466	11p15.5
IGFALS	insulin like growth factor binding protein acid labile subunit	HGNC:5468	16p13.3
IGSF1	immunoglobulin superfamily member 1	HGNC:5948	Xq25
IL17RD	interleukin 17 receptor D	HGNC:17616	3p14.3
IL2RA	interleukin 2 receptor subunit alpha	HGNC:6008	10p15.1
INPP5E	inositol polyphosphate-5-phosphatase E	HGNC:21474	9q34.3
INS	insulin	HGNC:6081	11p15.5
INSL3	insulin like 3	HGNC:6086	19p13.11
INSR	insulin receptor	HGNC:6091	19p13.2
IRS4	insulin receptor substrate 4	HGNC:6128	Xq22.3

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IYD	iodotyrosine deiodinase	HGNC:21071	6q25.1
KCNJ1	potassium inwardly rectifying channel subfamily J member 1	HGNC:6255	11q24.3
KCNJ11	potassium inwardly rectifying channel subfamily J member 11	HGNC:6257	11p15.1
KCNJ18	potassium inwardly rectifying channel subfamily J member 18	HGNC:39080	17p11.2
KDM6A	lysine demethylase 6A	HGNC:12637	Xp11.3
KISS1	KISS-1 metastasis suppressor	HGNC:6341	1q32.1
KISS1R	KISS1 receptor	HGNC:4510	19p13.3
KLB	klotho beta	HGNC:15527	4p14
KLF11	Kruppel like factor 11	HGNC:11811	2p25.1
KMT2D	lysine methyltransferase 2D	HGNC:7133	12q13.12
KRAS	KRAS proto-oncogene, GTPase	HGNC:6407	12p12.1
KSR2	kinase suppressor of ras 2	HGNC:18610	12q24.22-q24.23
LARS2	leucyl-tRNA synthetase 2, mitochondrial	HGNC:17095	3p21.31
LEP	leptin	HGNC:6553	7q32.1
LEPR	leptin receptor	HGNC:6554	1p31.3
LHB	lutetizing hormone subunit beta	HGNC:6584	19q13.33
LHCGR	lutetizing hormone/choriogonadotropin receptor	HGNC:6585	2p16.3
LHX3	LIM homeobox 3	HGNC:6595	9q34.3
LHX4	LIM homeobox 4	HGNC:21734	1q25.2
LIG4	DNA ligase 4	HGNC:6601	13q33.3
LIPE	lipase E, hormone sensitive type	HGNC:6621	19q13.2
LMNA	lamin A/C	HGNC:6636	1q22
LMNB1	lamin B1	HGNC:6637	5q23.2
LMNB2	lamin B2	HGNC:6638	19p13.3
LRBA	LPS responsive beige-like anchor protein	HGNC:1742	4q31.3
LRP5	LDL receptor related protein 5	HGNC:6697	11q13.2
MAMLD1	mastermind like domain containing 1	HGNC:2568	Xq28
MAP2K1	mitogen-activated protein kinase kinase 1	HGNC:6840	15q22.31
MAP2K2	mitogen-activated protein kinase kinase 2	HGNC:6842	19p13.3
MAP3K1	mitogen-activated protein kinase kinase kinase 1	HGNC:6848	5q11.2
MAP4K2	mitogen-activated protein kinase kinase kinase kinase 2	HGNC:6864	11q13.1
MAS1	MAS1 proto-oncogene, G protein-coupled receptor	HGNC:6899	6q25.3
MAX	MYC associated factor X	HGNC:6913	14q23.3
MC2R	melanocortin 2 receptor	HGNC:6930	18p11.2
MC4R	melanocortin 4 receptor	HGNC:6932	18q21.32
MCM4	minichromosome maintenance complex component 4	HGNC:6947	8q11.21
MCM8	minichromosome maintenance 8 homologous recombination repair factor	HGNC:16147	20p12.3
MCM9	minichromosome maintenance 9 homologous recombination repair factor	HGNC:21484	6q22.31
MEN1	menin 1	HGNC:7010	11q13
MKKS	MKKS centrosomal shuttling protein	HGNC:7108	20p12.2
MKS1	MKS transition zone complex subunit 1	HGNC:7121	17q22
MMP2	matrix metalloproteinase 2	HGNC:7166	16q12.2
MNX1	motor neuron and pancreas homeobox 1	HGNC:4979	7q36.3
MRAP	melanocortin 2 receptor accessory protein	HGNC:1304	21q22.11
MYT1L	myelin transcription factor 1 like	HGNC:7623	2p25.3
NANOS3	nanos C2HC-type zinc finger 3	HGNC:22048	19p13.12
NBN	nibrin	HGNC:7652	8q21.3
NEUROD1	neuronal differentiation 1	HGNC:7762	2q31.3
NEUROG3	neurogenin 3	HGNC:13806	10q22.1
NF1	neurofibromin 1	HGNC:7765	17q11.2
NF2	neurofibromin 2	HGNC:7773	22q12.2
NFE2L2	nuclear factor, erythroid 2 like 2	HGNC:7782	2q31.2
NIPA1	NIPA magnesium transporter 1	HGNC:17043	15q11.2
NIPA2	NIPA magnesium transporter 2	HGNC:17044	15q11.2
NIPBL	NIPBL cohesin loading factor	HGNC:28862	5p13.2

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NKX2-1	NK2 homeobox 1	HGNC:11825	14q13.3
NKX2-2	NK2 homeobox 2	HGNC:7835	20p11.22
NKX2-5	NK2 homeobox 5	HGNC:2488	5q34
NLRP3	NLR family pyrin domain containing 3	HGNC:16400	1q44
NNT	nicotinamide nucleotide transhydrogenase	HGNC:7863	5p12
NOBOX	NOBOX oogenesis homeobox	HGNC:22448	7q35
NOG	noggin	HGNC:7866	17q22
NPFFR2	neuropeptide FF receptor 2	HGNC:4525	4q13.3
NR0B1	nuclear receptor subfamily 0 group B member 1	HGNC:7960	Xp21.2
NR2F2	nuclear receptor subfamily 2 group F member 2	HGNC:7976	15q26.2
NR3C1	nuclear receptor subfamily 3 group C member 1	HGNC:7978	5q31.3
NR5A1	nuclear receptor subfamily 5 group A member 1	HGNC:7983	9q33.3
NRAS	NRAS proto-oncogene, GTPase	HGNC:7989	1p13.2
NSMF	NMDA receptor synaptonuclear signaling and neuronal migration factor	HGNC:29843	9q34.3
NTN1	netrin 1	HGNC:8029	17p13.1
NTRK2	neurotrophic receptor tyrosine kinase 2	HGNC:8032	9q21.33
NUP107	nucleoporin 107	HGNC:29914	12q15
OBSL1	obscurin like cytoskeletal adaptor 1	HGNC:29092	2q35
OCRL	OCRL inositol polyphosphate-5-phosphatase	HGNC:8108	Xq26.1
ORC1	origin recognition complex subunit 1	HGNC:8487	1p32.3
ORC4	origin recognition complex subunit 4	HGNC:8490	2q23.1
ORC6	origin recognition complex subunit 6	HGNC:17151	16q11.2
OTUD4	OTU deubiquitinase 4	HGNC:24949	4q31.21
OTX2	orthodenticle homeobox 2	HGNC:8522	14q22.3
P3H1	prolyl 3-hydroxylase 1	HGNC:19316	1p34.2
PAPPA2	pappalysin 2	HGNC:14615	1q25.2
PAX4	paired box 4	HGNC:8618	7q32.1
PAX6	paired box 6	HGNC:8620	11p13
PAX8	paired box 8	HGNC:8622	2q14.1
PBX1	PBX homeobox 1	HGNC:8632	1q23.3
PCBD1	pterin-4 alpha-carbinolamine dehydratase 1	HGNC:8646	10q22.1
PCNT	pericentrin	HGNC:16068	21q22.3
PCSK1	proprotein convertase subtilisin/kexin type 1	HGNC:8743	5q15
PCYT1A	phosphate cytidyltransferase 1A, choline	HGNC:8754	3q29
PDE3A	phosphodiesterase 3A	HGNC:8778	12p12.2
PDE4D	phosphodiesterase 4D	HGNC:8783	5q11.2-q12.1
PDHX	pyruvate dehydrogenase complex component X	HGNC:21350	11p13
PDX1	pancreatic and duodenal homeobox 1	HGNC:6107	13q12.2
PGRMC1	progesterone receptor membrane component 1	HGNC:16090	Xq24
PHEX	phosphate regulating endopeptidase homolog X-linked	HGNC:8918	Xp22.11
PHF6	PHD finger protein 6	HGNC:18145	Xq26.2
PHF8	PHD finger protein 8	HGNC:20672	Xp11.22
PHIP	pleckstrin homology domain interacting protein	HGNC:15673	6q14.1
PIK3CA	phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit alpha	HGNC:8975	3q26.32
PIK3R1	phosphoinositide-3-kinase regulatory subunit 1	HGNC:8979	5q13.1
PITX2	paired like homeodomain 2	HGNC:9005	4q25
PLAGL1	PLAG1 like zinc finger 1	HGNC:9046	6q24.2
PLIN1	perilipin 1	HGNC:9076	15q26.1
PLOD2	procollagen-lysine,2-oxoglutarate 5-dioxygenase 2	HGNC:9082	3q24
PLS3	plastin 3	HGNC:9091	Xq23
PMM2	phosphomannomutase 2	HGNC:9115	16p13.2
PMPCA	peptidase, mitochondrial processing subunit alpha	HGNC:18667	9q34.3
PMPCB	peptidase, mitochondrial processing subunit beta	HGNC:9119	7q22.1
PNPLA6	patatin like phospholipase domain containing 6	HGNC:16268	19p13.2
POF1B	POF1B actin binding protein	HGNC:13711	Xq21.1

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POLD1	DNA polymerase delta 1, catalytic subunit	HGNC:9175	19q13.3
POLG	DNA polymerase gamma, catalytic subunit	HGNC:9179	15q26.1
POLR3B	RNA polymerase III subunit B	HGNC:30348	12q23.3
POMC	proopiomelanocortin	HGNC:9201	2p23.3
POR	cytochrome p450 oxidoreductase	HGNC:9208	7q11.23
PORCN	porcupine O-acyltransferase	HGNC:17652	Xp11.23
POU1F1	POU class 1 homeobox 1	HGNC:9210	3p11.2
PPARG	peroxisome proliferator activated receptor gamma	HGNC:9236	3p25.2
PPIB	peptidylprolyl isomerase B	HGNC:9255	15q22.31
PPP1R12A	protein phosphatase 1 regulatory subunit 12A	HGNC:7618	12q21.2-q21.31
PPP1R15B	protein phosphatase 1 regulatory subunit 15B	HGNC:14951	1q32.1
PRKAR1A	protein kinase cAMP-dependent type I regulatory subunit alpha	HGNC:9388	17q24.2
PROK2	prokineticin 2	HGNC:18455	3p13
PROKR2	prokineticin receptor 2	HGNC:15836	20p12.3
PROP1	PROP paired-like homeobox 1	HGNC:9455	5q35.3
PRRT2	proline rich transmembrane protein 2	HGNC:30500	16p11.2
PSMC3IP	PSMC3 interacting protein	HGNC:17928	17q21.2
PTEN	phosphatase and tensin homolog	HGNC:9588	10q23.31
PTF1A	pancreas associated transcription factor 1a	HGNC:23734	10p12.2
PTH	parathyroid hormone	HGNC:9606	11p15.3
PTH1R	parathyroid hormone 1 receptor	HGNC:9608	3p21.31
PTH1LH	parathyroid hormone like hormone	HGNC:9607	12p11.22
PTPN11	protein tyrosine phosphatase non-receptor type 11	HGNC:9644	12q24.13
PTTG1	PTTG1 regulator of sister chromatid separation, securin	HGNC:9690	5q33.3
RAD21	RAD21 cohesin complex component	HGNC:9811	8q24.11
RAF1	Raf-1 proto-oncogene, serine/threonine kinase	HGNC:9829	3p25.2
RB1	RB transcriptional corepressor 1	HGNC:9884	13q14.2
RBBP8	RB binding protein 8, endonuclease	HGNC:9891	18q11.2
RCBTB1	RCC1 and BTB domain containing protein 1	HGNC:18243	13q14.2
RET	ret proto-oncogene	HGNC:9967	10q11.21
RFX6	regulatory factor X6	HGNC:21478	6q22.1
RIT1	Ras like without CAAX 1	HGNC:10023	1q22
RNASE3	ribonuclease A family member 3	HGNC:10046	14q11.2
RNF216	ring finger protein 216	HGNC:21698	7p22.1
RNPC3	RNA binding region (RNP1, RRM) containing 3	HGNC:18666	1p21.1
ROR2	receptor tyrosine kinase like orphan receptor 2	HGNC:10257	9q22.31
RORA	RAR related orphan receptor A	HGNC:10258	15q22.2
RPL10	ribosomal protein L10	HGNC:10298	Xq28
RPL15	ribosomal protein L15	HGNC:10306	3p24.2
RPS6KA3	ribosomal protein S6 kinase A3	HGNC:10432	Xp22.12
RSPO1	R-spondin 1	HGNC:21679	1p34.3
RXFP2	relaxin family peptide receptor 2	HGNC:17318	13q13.1
SAMD9	sterile alpha motif domain containing 9	HGNC:1348	7q21.2
SCN4A	sodium voltage-gated channel alpha subunit 4	HGNC:10591	17q23.3
SCNN1B	sodium channel epithelial 1 subunit beta	HGNC:10600	16p12.2-p12.1
SCNN1G	sodium channel epithelial 1 subunit gamma	HGNC:10602	16p12.2
SDCCAG8	SHH signaling and ciliogenesis regulator SDCCAG8	HGNC:10671	1q43-q44
SDHA	succinate dehydrogenase complex flavoprotein subunit A	HGNC:10680	5p15.33
SDHAF2	succinate dehydrogenase complex assembly factor 2	HGNC:26034	11q12.2
SDHB	succinate dehydrogenase complex iron sulfur subunit B	HGNC:10681	1p36.13
SDHC	succinate dehydrogenase complex subunit C	HGNC:10682	1q23.3
SDHD	succinate dehydrogenase complex subunit D	HGNC:10683	11q23.1
SECISBP2	SECIS binding protein 2	HGNC:30972	9q22.2
SEMA3A	semaphorin 3A	HGNC:10723	7q21.11
SEMA7A	semaphorin 7A (John Milton Hagen blood group)	HGNC:10741	15q24.1

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SERPINA7	serpin family A member 7	HGNC:11583	Xq22.3
SERPINF1	serpin family F member 1	HGNC:8824	17p13.3
SERPINH1	serpin family H member 1	HGNC:1546	11q13.5
SF1	splicing factor 1	HGNC:12950	11q13.1
SGO2	shugoshin 2	HGNC:30812	2q33.1
SGPL1	sphingosine-1-phosphate lyase 1	HGNC:10817	10q22.1
SH2B1	SH2B adaptor protein 1	HGNC:30417	16p11.2
SHOC2	SHOC2 leucine rich repeat scaffold protein	HGNC:15454	10q25.2
SHOX	short stature homeobox	HGNC:10853	Xp22.33 and Yp11.32
SIM1	SIM bHLH transcription factor 1	HGNC:10882	6q16.3
SLC12A1	solute carrier family 12 member 1	HGNC:10910	15q21.1
SLC12A3	solute carrier family 12 member 3	HGNC:10912	16q13
SLC16A1	solute carrier family 16 member 1	HGNC:10922	1p13.2
SLC16A2	solute carrier family 16 member 2	HGNC:10923	Xq13.2
SLC19A2	solute carrier family 19 member 2	HGNC:10938	1q24.2
SLC25A15	solute carrier family 25 member 15	HGNC:10985	13q14.11
SLC26A4	solute carrier family 26 member 4	HGNC:8818	7q22.3
SLC26A7	solute carrier family 26 member 7	HGNC:14467	8q21.3
SLC29A3	solute carrier family 29 member 3	HGNC:23096	10q22.1
SLC2A2	solute carrier family 2 member 2	HGNC:11006	3q26.2
SLC34A1	solute carrier family 34 member 1	HGNC:11019	5q35.3
SLC34A3	solute carrier family 34 member 3	HGNC:20305	9q34.3
SLC40A1	solute carrier family 40 member 1	HGNC:10909	2q32.2
SLC4A1	solute carrier family 4 member 1 (Diego blood group)	HGNC:11027	17q21.31
SLC5A5	solute carrier family 5 member 5	HGNC:11040	19p13.11
SLC7A7	solute carrier family 7 member 7	HGNC:11065	14q11.2
SLC7A9	solute carrier family 7 member 9	HGNC:11067	19q13.11
SLC9A3R1	SLC9A3 regulator 1	HGNC:11075	17q25.1
SMC1A	structural maintenance of chromosomes 1A	HGNC:11111	Xp11.22
SMC3	structural maintenance of chromosomes 3	HGNC:2468	10q25.2
SOHLH1	spermatogenesis and oogenesis specific basic helix-loop-helix 1	HGNC:27845	9q34.3
SOHLH2	spermatogenesis and oogenesis specific basic helix-loop-helix 2	HGNC:26026	13q13.3
SOS1	SOS Ras/Rac guanine nucleotide exchange factor 1	HGNC:11187	2p22.1
SQST	sclerostin	HGNC:13771	17q21.31
SOX10	SRY-box transcription factor 10	HGNC:11190	22q13.1
SOX2	SRY-box transcription factor 2	HGNC:11195	3q26.33
SOX3	SRY-box transcription factor 3	HGNC:11199	Xq27.1
SOX8	SRY-box transcription factor 8	HGNC:11203	16p13.3
SOX9	SRY-box transcription factor 9	HGNC:11204	17q24.3
SQSTM1	sequestosome 1	HGNC:11280	5q35.3
SRCAP	Snf2 related CREBBP activator protein	HGNC:16974	16p11.2
SRD5A2	steroid 5 alpha-reductase 2	HGNC:11285	2p23.1
SREBF1	sterol regulatory element binding transcription factor 1	HGNC:11289	17p11.2
SRY	sex determining region Y	HGNC:11311	Yp11.2
STAG3	stromal antigen 3	HGNC:11356	7q22.1
STAR	steroidogenic acute regulatory protein	HGNC:11359	8p11.23
STAT3	signal transducer and activator of transcription 3	HGNC:11364	17q21.2
STAT5B	signal transducer and activator of transcription 5B	HGNC:11367	17q21.2
SYCE1	synaptonemal complex central element protein 1	HGNC:28852	10q26.3
TAC3	tachykinin precursor 3	HGNC:11521	12q13.3
TACR3	tachykinin receptor 3	HGNC:11528	4q24
TBCE	tubulin folding cofactor E	HGNC:11582	1q42.3
TBL1X	transducin beta like 1 X-linked	HGNC:11585	Xp22.31-p22.2
TBX1	T-box transcription factor 1	HGNC:11592	22q11.21
TBX19	T-box transcription factor 19	HGNC:11596	1q24.2

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TCF12	transcription factor 12	HGNC:11623	15q21.3
TFR2	transferrin receptor 2	HGNC:11762	7q22.1
TG	thyroglobulin	HGNC:11764	8q24.22
THPO	thrombopoietin	HGNC:11795	3q27.1
THRA	thyroid hormone receptor alpha	HGNC:11796	17q21.1
THRB	thyroid hormone receptor beta	HGNC:11799	3p24.2
TMEM127	transmembrane protein 127	HGNC:26038	2q11.2
TMEM38B	transmembrane protein 38B	HGNC:25535	9q31.2
TNFRSF11A	TNF receptor superfamily member 11a	HGNC:11908	18q21.33
TNFRSF11B	TNF receptor superfamily member 11b	HGNC:11909	8q24.12
TOE1	target of EGR1, exonuclease	HGNC:15954	1p34.1
TPO	thyroid peroxidase	HGNC:12015	2p25.3
TRHR	thyrotropin releasing hormone receptor	HGNC:12299	8q23.1
TRIM32	tripartite motif containing 32	HGNC:16380	9q33.1
TRIM37	tripartite motif containing 37	HGNC:7523	17q22
TRMT10A	tRNA methyltransferase 10A	HGNC:28403	4q23
TRPS1	transcriptional repressor GATA binding 1	HGNC:12340	8q23.3
TSHB	thyroid stimulating hormone subunit beta	HGNC:12372	1p13.2
TSHR	thyroid stimulating hormone receptor	HGNC:12373	14q24-q31
TSPYL1	TSPY like 1	HGNC:12382	6q22.1
TTC8	tetratricopeptide repeat domain 8	HGNC:20087	14q31.3
TTR	transthyretin	HGNC:12405	18q12.1
TUB	TUB bipartite transcription factor	HGNC:12406	11p15.4
TUBB1	tubulin beta 1 class VI	HGNC:16257	20q13.32
TWNK	twinkle mtDNA helicase	HGNC:1160	10q24.31
VDR	vitamin D receptor	HGNC:12679	12q13.11
VHL	von Hippel-Lindau tumor suppressor	HGNC:12687	3p25.3
VPS13B	vacuolar protein sorting 13 homolog B	HGNC:2183	8q22.2
WDR11	WD repeat domain 11	HGNC:13831	10q26.12
WFS1	wolframin ER transmembrane glycoprotein	HGNC:12762	4p16.1
WNT1	Wnt family member 1	HGNC:12774	12q13.12
WNT4	Wnt family member 4	HGNC:12783	1p36.12
WRN	WRN RecQ like helicase	HGNC:12791	8p12
WT1	WT1 transcription factor	HGNC:12796	11p13
WWOX	WW domain containing oxidoreductase	HGNC:12799	16q23.1-q23.2
XRCC4	X-ray repair cross complementing 4	HGNC:12831	5q14.2
ZBTB20	zinc finger and BTB domain containing 20	HGNC:13503	3q13.31
ZFPM2	zinc finger protein, FOG family member 2	HGNC:16700	8q23
ZMPSTE24	zinc metalloproteinase STE24	HGNC:12877	1p34.2
ZNF3	zinc and ring finger 3	HGNC:18126	22q12.1