

HGNC symbols	gene description	1,045 Unique total protein-coding genes_ forming S-AS pairs with MIR-lncRNAs
1 A1BG	alpha-1-B glycoprotein [Source:HGNC Symbol;Acc:HGNC:5]	
2 A3GALT2	alpha 1,3-galactosyltransferase 2 [Source:HGNC Symbol;Acc:HGNC:30005]	
3 ABAT	4-aminobutyrate aminotransferase [Source:HGNC Symbol;Acc:HGNC:23]	
4 ABCA9	ATP binding cassette subfamily A member 9 [Source:HGNC Symbol;Acc:HGNC:39]	
5 ABCB9	ATP binding cassette subfamily B member 9 [Source:HGNC Symbol;Acc:HGNC:50]	
6 ABHD2	abhydrolase domain containing 2 [Source:HGNC Symbol;Acc:HGNC:18717]	
7 ABHD4	abhydrolase domain containing 4 [Source:HGNC Symbol;Acc:HGNC:20154]	
8 ABLIM3	actin binding LIM protein family member 3 [Source:HGNC Symbol;Acc:HGNC:29132]	
9 AC004466.1	N/A	
10 AC006116.20	N/A	
11 AC007040.11	N/A	
12 AC007461.1	N/A	
13 AC007557.1	LOC101928327	
14 AC008443.1	N/A	
15 AC009892.10	N/A	
16 AC015989.2	N/A	
17 AC019294.1	N/A	
18 AC026369.1	N/A	
19 AC093157.1	N/A	
20 AC104809.3	N/A	
21 AC114494.1	N/A	
22 AC117834.1	N/A	
23 ACMSD	aminocarboxymuconate semialdehyde decarboxylase [Source:HGNC Symbol;Acc:HGNC:19288]	
24 ACOT8	acyl-CoA thioesterase 8 [Source:HGNC Symbol;Acc:HGNC:15919]	
25 ACSBG2	acyl-CoA synthetase bubblegum family member 2 [Source:HGNC Symbol;Acc:HGNC:24174]	
26 ACSM5	acyl-CoA synthetase medium-chain family member 5 [Source:HGNC Symbol;Acc:HGNC:26060]	
27 ACTC1	actin, alpha, cardiac muscle 1 [Source:HGNC Symbol;Acc:HGNC:143]	
28 ACTL10	actin like 10 [Source:HGNC Symbol;Acc:HGNC:16127]	
29 ADAD2	adenosine deaminase domain containing 2 [Source:HGNC Symbol;Acc:HGNC:30714]	

30	ADAM17	ADAM metallopeptidase domain 17 [Source:HGNC Symbol;Acc:HGNC:195]
31	ADAMTSL4	ADAMTS like 4 [Source:HGNC Symbol;Acc:HGNC:19706]
32	ADAMTSL5	ADAMTS like 5 [Source:HGNC Symbol;Acc:HGNC:27912]
33	ADH1A	alcohol dehydrogenase 1A (class I), alpha polypeptide [Source:HGNC Symbol;Acc:HGNC:249]
34	ADH6	alcohol dehydrogenase 6 (class V) [Source:HGNC Symbol;Acc:HGNC:255]
35	ADIPOQ	adiponectin, C1Q and collagen domain containing [Source:HGNC Symbol;Acc:HGNC:13633]
36	ADIRF	adipogenesis regulatory factor [Source:HGNC Symbol;Acc:HGNC:24043]
37	ADM5	adrenomedullin 5 (putative) [Source:HGNC Symbol;Acc:HGNC:27293]
38	ADORA1	adenosine A1 receptor [Source:HGNC Symbol;Acc:HGNC:262]
39	ADORA2A	adenosine A2a receptor [Source:HGNC Symbol;Acc:HGNC:263]
40	ADPGK	ADP dependent glucokinase [Source:HGNC Symbol;Acc:HGNC:25250]
41	ADPRH	ADP-ribosylarginine hydrolase [Source:HGNC Symbol;Acc:HGNC:269]
42	AFAP1	actin filament associated protein 1 [Source:HGNC Symbol;Acc:HGNC:24017]
43	AGK	acylglycerol kinase [Source:HGNC Symbol;Acc:HGNC:21869]
44	AGPS	alkylglycerone phosphate synthase [Source:HGNC Symbol;Acc:HGNC:327]
45	AHI1	Abelson helper integration site 1 [Source:HGNC Symbol;Acc:HGNC:21575]
46	AHR	aryl hydrocarbon receptor [Source:HGNC Symbol;Acc:HGNC:348]
47	AKAP13	A-kinase anchoring protein 13 [Source:HGNC Symbol;Acc:HGNC:371]
48	AL117190.2	N/A
49	ALDH1L1	aldehyde dehydrogenase 1 family member L1 [Source:HGNC Symbol;Acc:HGNC:3978]
50	ALG10	ALG10, alpha-1,2-glucosyltransferase [Source:HGNC Symbol;Acc:HGNC:23162]
51	ALKBH5	alkB homolog 5, RNA demethylase [Source:HGNC Symbol;Acc:HGNC:25996]
52	ANAPC5	anaphase promoting complex subunit 5 [Source:HGNC Symbol;Acc:HGNC:15713]
53	ANGPT2	angiopoietin 2 [Source:HGNC Symbol;Acc:HGNC:485]
54	ANK1	ankyrin 1 [Source:HGNC Symbol;Acc:HGNC:492]
55	ANKEF1	ankyrin repeat and EF-hand domain containing 1 [Source:HGNC Symbol;Acc:HGNC:15803]
56	ANKRD42	ankyrin repeat domain 42 [Source:HGNC Symbol;Acc:HGNC:26752]
57	ANKRD6	ankyrin repeat domain 6 [Source:HGNC Symbol;Acc:HGNC:17280]
58	ANKRD66	ankyrin repeat domain 66 [Source:HGNC Symbol;Acc:HGNC:44669]
59	AP1G2	adaptor related protein complex 1 gamma 2 subunit [Source:HGNC Symbol;Acc:HGNC:556]

60	AP3S1	adaptor related protein complex 3 sigma 1 subunit [Source:HGNC Symbol;Acc:HGNC:2013]
61	APOM	apolipoprotein M [Source:HGNC Symbol;Acc:HGNC:13916]
62	APP	amyloid beta precursor protein [Source:HGNC Symbol;Acc:HGNC:620]
63	AQP2	aquaporin 2 [Source:HGNC Symbol;Acc:HGNC:634]
64	AQP9	aquaporin 9 [Source:HGNC Symbol;Acc:HGNC:643]
65	ARAP1	ArfGAP with RhoGAP domain, ankyrin repeat and PH domain 1 [Source:HGNC Symbol;Acc:HGNC:16925]
66	ARF5	ADP ribosylation factor 5 [Source:HGNC Symbol;Acc:HGNC:658]
67	ARHGAP28	Rho GTPase activating protein 28 [Source:HGNC Symbol;Acc:HGNC:25509]
68	ARHGAP5	Rho GTPase activating protein 5 [Source:HGNC Symbol;Acc:HGNC:675]
69	ARHGEF15	Rho guanine nucleotide exchange factor 15 [Source:HGNC Symbol;Acc:HGNC:15590]
70	ARHGEF26	Rho guanine nucleotide exchange factor 26 [Source:HGNC Symbol;Acc:HGNC:24490]
71	ARHGEF3	Rho guanine nucleotide exchange factor 3 [Source:HGNC Symbol;Acc:HGNC:683]
72	ARHGEF35	Rho guanine nucleotide exchange factor 35 [Source:HGNC Symbol;Acc:HGNC:33846]
73	ARIH1	ariadne RBR E3 ubiquitin protein ligase 1 [Source:HGNC Symbol;Acc:HGNC:689]
74	ARNT2	aryl hydrocarbon receptor nuclear translocator 2 [Source:HGNC Symbol;Acc:HGNC:16876]
75	ART4	ADP-ribosyltransferase 4 (Dombrock blood group) [Source:HGNC Symbol;Acc:HGNC:726]
76	ASB16	ankyrin repeat and SOCS box containing 16 [Source:HGNC Symbol;Acc:HGNC:19768]
77	ASB7	ankyrin repeat and SOCS box containing 7 [Source:HGNC Symbol;Acc:HGNC:17182]
78	ASCL1	achaete-scute family bHLH transcription factor 1 [Source:HGNC Symbol;Acc:HGNC:738]
79	ASH1L	ASH1 like histone lysine methyltransferase [Source:HGNC Symbol;Acc:HGNC:19088]
80	ATE1	arginyltransferase 1 [Source:HGNC Symbol;Acc:HGNC:782]
81	ATF5	activating transcription factor 5 [Source:HGNC Symbol;Acc:HGNC:790]
82	ATL3	atlastin GTPase 3 [Source:HGNC Symbol;Acc:HGNC:24526]
83	ATP13A2	ATPase 13A2 [Source:HGNC Symbol;Acc:HGNC:30213]
84	ATP13A3	ATPase 13A3 [Source:HGNC Symbol;Acc:HGNC:24113]
	ATP5H	ATP synthase, H ⁺ transporting, mitochondrial Fo complex subunit D [Source:HGNC Symbol;Acc:HGNC:845]
85		
	ATP5L	ATP synthase, H ⁺ transporting, mitochondrial Fo complex subunit G [Source:HGNC
86		Symbol;Acc:HGNC:14247]

ATP5O	ATP synthase, H ⁺ transporting, mitochondrial F1 complex, O subunit [Source:HGNC Symbol;Acc:HGNC:850]
87	
88 ATP6V0E2	ATPase H ⁺ transporting V0 subunit e2 [Source:HGNC Symbol;Acc:HGNC:21723]
89 ATP6V1C1	ATPase H ⁺ transporting V1 subunit C1 [Source:HGNC Symbol;Acc:HGNC:856]
90 AZIN1	antizyme inhibitor 1 [Source:HGNC Symbol;Acc:HGNC:16432]
91 B4GALT6	beta-1,4-galactosyltransferase 6 [Source:HGNC Symbol;Acc:HGNC:929]
92 B9D1	B9 domain containing 1 [Source:HGNC Symbol;Acc:HGNC:24123]
93 BCAN	brevican [Source:HGNC Symbol;Acc:HGNC:23059]
94 BCAR3	breast cancer anti-estrogen resistance 3 [Source:HGNC Symbol;Acc:HGNC:973]
95 BCL2L2	BCL2L2-PABPN1 readthrough [Source:HGNC Symbol;Acc:HGNC:42959]
95 BCL2L2	BCL2 like 2 [Source:HGNC Symbol;Acc:HGNC:995]
96 BCL7C	BCL tumor suppressor 7C [Source:HGNC Symbol;Acc:HGNC:1006]
97 BDNF	brain derived neurotrophic factor [Source:HGNC Symbol;Acc:HGNC:1033]
98 BEAN1	brain expressed, associated with NEDD4, 1 [Source:HGNC Symbol;Acc:HGNC:24160]
99 BEGAIN	brain enriched guanylate kinase associated [Source:HGNC Symbol;Acc:HGNC:24163]
100 BLNK	B-cell linker [Source:HGNC Symbol;Acc:HGNC:14211]
101 BMP8A	bone morphogenetic protein 8a [Source:HGNC Symbol;Acc:HGNC:21650]
102 BPI	bactericidal/permeability-increasing protein [Source:HGNC Symbol;Acc:HGNC:1095]
103 BRD7	bromodomain containing 7 [Source:HGNC Symbol;Acc:HGNC:14310]
104 BTBD3	BTB domain containing 3 [Source:HGNC Symbol;Acc:HGNC:15854]
105 BTG1	BTG anti-proliferation factor 1 [Source:HGNC Symbol;Acc:HGNC:1130]
106 BVES	blood vessel epicardial substance [Source:HGNC Symbol;Acc:HGNC:1152]
107 BX088651.1	N/A
108 BZRAP1	TSPO associated protein 1 [Source:HGNC Symbol;Acc:HGNC:16831]
109 C10ORF105	chromosome 10 open reading frame 105 [Source:HGNC Symbol;Acc:HGNC:20304]
110 C10ORF131	coiled-coil and C2 domain containing 2B [Source:HGNC Symbol;Acc:HGNC:31666]
111 C10ORF88	chromosome 10 open reading frame 88 [Source:HGNC Symbol;Acc:HGNC:25822]
112 C11ORF57	chromosome 11 open reading frame 57 [Source:HGNC Symbol;Acc:HGNC:25569]
113 C11ORF72	chromosome 11 open reading frame 72 [Source:HGNC Symbol;Acc:HGNC:26915]
114 C15ORF27	transmembrane protein 266 [Source:HGNC Symbol;Acc:HGNC:26763]

115 C15ORF39 chromosome 15 open reading frame 39 [Source:HGNC Symbol;Acc:HGNC:24497]
116 C15ORF61 chromosome 15 open reading frame 61 [Source:HGNC Symbol;Acc:HGNC:34453]
117 C16ORF52 chromosome 16 open reading frame 52 [Source:HGNC Symbol;Acc:HGNC:27087]
118 C16ORF58 chromosome 16 open reading frame 58 [Source:HGNC Symbol;Acc:HGNC:25848]
119 C17ORF78 chromosome 17 open reading frame 78 [Source:HGNC Symbol;Acc:HGNC:26831]
120 C19ORF66 chromosome 19 open reading frame 66 [Source:HGNC Symbol;Acc:HGNC:25649]
121 C19ORF68 chromosome 19 open reading frame 68 [Source:HGNC Symbol;Acc:HGNC:34495]
122 C1ORF167 N/A
123 C1ORF173 N/A
124 C1QTNF6 C1q and tumor necrosis factor related protein 6 [Source:HGNC Symbol;Acc:HGNC:14343]
125 C1RL complement C1r subcomponent like [Source:HGNC Symbol;Acc:HGNC:21265]
126 C20ORF144 chromosome 20 open reading frame 144 [Source:HGNC Symbol;Acc:HGNC:16137]
127 C21ORF2 chromosome 21 open reading frame 2 [Source:HGNC Symbol;Acc:HGNC:1260]
128 C2ORF49 chromosome 2 open reading frame 49 [Source:HGNC Symbol;Acc:HGNC:28772]
129 C3ORF67 chromosome 3 open reading frame 67 [Source:HGNC Symbol;Acc:HGNC:24763]
130 C4ORF19 chromosome 4 open reading frame 19 [Source:HGNC Symbol;Acc:HGNC:25618]
131 C5ORF56 N/A
132 C6ORF106 chromosome 6 open reading frame 106 [Source:HGNC Symbol;Acc:HGNC:21215]
133 C8ORF56 N/A
134 C9ORF117 cilia and flagella associated protein 157 [Source:HGNC Symbol;Acc:HGNC:27843]
135 C9ORF9 sperm acrosome associated 9 [Source:HGNC Symbol;Acc:HGNC:1367]
136 CA11 carbonic anhydrase 11 [Source:HGNC Symbol;Acc:HGNC:1370]
137 CA7 carbonic anhydrase 7 [Source:HGNC Symbol;Acc:HGNC:1381]
138 CACNA1C calcium voltage-gated channel subunit alpha1 C [Source:HGNC Symbol;Acc:HGNC:1390]
139 CACNA2D3 calcium voltage-gated channel auxiliary subunit alpha2delta 3 [Source:HGNC Symbol;Acc:HGNC:15460]
140 CACTIN cactin, spliceosome C complex subunit [Source:HGNC Symbol;Acc:HGNC:29938]
141 CALHM2 calcium homeostasis modulator 2 [Source:HGNC Symbol;Acc:HGNC:23493]
142 CALML3 calmodulin like 3 [Source:HGNC Symbol;Acc:HGNC:1452]
143 CAMK2G calcium/calmodulin dependent protein kinase II gamma [Source:HGNC Symbol;Acc:HGNC:1463]
144 CAPZA1 capping actin protein of muscle Z-line alpha subunit 1 [Source:HGNC Symbol;Acc:HGNC:1488]

145 CARD14 caspase recruitment domain family member 14 [Source:HGNC Symbol;Acc:HGNC:16446]
146 CARHSP1 calcium regulated heat stable protein 1 [Source:HGNC Symbol;Acc:HGNC:17150]
147 CAV2 caveolin 2 [Source:HGNC Symbol;Acc:HGNC:1528]
148 CBFA2T3 CBFA2/RUNX1 translocation partner 3 [Source:HGNC Symbol;Acc:HGNC:1537]
149 CBLL1 Cbl proto-oncogene like 1 [Source:HGNC Symbol;Acc:HGNC:21225]
150 CC2D2B coiled-coil and C2 domain containing 2B [Source:HGNC Symbol;Acc:HGNC:31666]
151 CCDC103 coiled-coil domain containing 103 [Source:HGNC Symbol;Acc:HGNC:32700]
152 CCDC13 coiled-coil domain containing 13 [Source:HGNC Symbol;Acc:HGNC:26358]
153 CCDC148 coiled-coil domain containing 148 [Source:HGNC Symbol;Acc:HGNC:25191]
154 CCDC157 coiled-coil domain containing 157 [Source:HGNC Symbol;Acc:HGNC:33854]
155 CCDC166 coiled-coil domain containing 166 [Source:HGNC Symbol;Acc:HGNC:41910]
156 CCDC178 coiled-coil domain containing 178 [Source:HGNC Symbol;Acc:HGNC:29588]
157 CCDC18 coiled-coil domain containing 18 [Source:HGNC Symbol;Acc:HGNC:30370]
158 CCDC28B coiled-coil domain containing 28B [Source:HGNC Symbol;Acc:HGNC:28163]
159 CCDC64B BICD family like cargo adaptor 2 [Source:HGNC Symbol;Acc:HGNC:33584]
160 CCDC85A coiled-coil domain containing 85A [Source:HGNC Symbol;Acc:HGNC:29400]
161 CCDC86 coiled-coil domain containing 86 [Source:HGNC Symbol;Acc:HGNC:28359]
162 CCDC88A coiled-coil domain containing 88A [Source:HGNC Symbol;Acc:HGNC:25523]
163 CCDC93 coiled-coil domain containing 93 [Source:HGNC Symbol;Acc:HGNC:25611]
164 CCND1 cyclin D1 [Source:HGNC Symbol;Acc:HGNC:1582]
165 CCNF cyclin F [Source:HGNC Symbol;Acc:HGNC:1591]
166 CCT5 chaperonin containing TCP1 subunit 5 [Source:HGNC Symbol;Acc:HGNC:1618]
167 CCT6B chaperonin containing TCP1 subunit 6B [Source:HGNC Symbol;Acc:HGNC:1621]
168 CD48 CD48 molecule [Source:HGNC Symbol;Acc:HGNC:1683]
169 CD82 CD82 molecule [Source:HGNC Symbol;Acc:HGNC:6210]
170 CDK6 cyclin dependent kinase 6 [Source:HGNC Symbol;Acc:HGNC:1777]
171 CDKN2A cyclin dependent kinase inhibitor 2A [Source:HGNC Symbol;Acc:HGNC:1787]
172 CDON cell adhesion associated, oncogene regulated [Source:HGNC Symbol;Acc:HGNC:17104]
173 CDSN corneodesmosin [Source:HGNC Symbol;Acc:HGNC:1802]
174 CEACAM1 carcinoembryonic antigen related cell adhesion molecule 1 [Source:HGNC Symbol;Acc:HGNC:1814]

175 CEACAM16 carcinoembryonic antigen related cell adhesion molecule 16 [Source:HGNC Symbol;Acc:HGNC:31948]
176 CEBPZ CCAAT/enhancer binding protein zeta [Source:HGNC Symbol;Acc:HGNC:24218]
177 CELF1 CUGBP, Elav-like family member 1 [Source:HGNC Symbol;Acc:HGNC:2549]
178 CENPP centromere protein P [Source:HGNC Symbol;Acc:HGNC:32933]
179 CENPV centromere protein V [Source:HGNC Symbol;Acc:HGNC:29920]
180 CGNL1 cingulin like 1 [Source:HGNC Symbol;Acc:HGNC:25931]
181 CHIA chitinase, acidic [Source:HGNC Symbol;Acc:HGNC:17432]
182 CHMP3 charged multivesicular body protein 3 [Source:HGNC Symbol;Acc:HGNC:29865]
183 CHN2 chimerin 2 [Source:HGNC Symbol;Acc:HGNC:1944]
184 CHPF2 chondroitin polymerizing factor 2 [Source:HGNC Symbol;Acc:HGNC:29270]
185 CHRM1 cholinergic receptor muscarinic 1 [Source:HGNC Symbol;Acc:HGNC:1950]
186 CHRNB2 cholinergic receptor nicotinic beta 2 subunit [Source:HGNC Symbol;Acc:HGNC:1962]
187 CHTOP chromatin target of PRMT1 [Source:HGNC Symbol;Acc:HGNC:24511]
188 CIITA class II major histocompatibility complex transactivator [Source:HGNC Symbol;Acc:HGNC:7067]
189 CISH cytokine inducible SH2 containing protein [Source:HGNC Symbol;Acc:HGNC:1984]
190 CLDN14 claudin 14 [Source:HGNC Symbol;Acc:HGNC:2035]
191 CLIP1 CAP-Gly domain containing linker protein 1 [Source:HGNC Symbol;Acc:HGNC:10461]
192 CLUAP1 clusterin associated protein 1 [Source:HGNC Symbol;Acc:HGNC:19009]
193 CLUH clustered mitochondria homolog [Source:HGNC Symbol;Acc:HGNC:29094]
194 CNIH2 cornichon family AMPA receptor auxiliary protein 2 [Source:HGNC Symbol;Acc:HGNC:28744]
195 CNNM3 cyclin and CBS domain divalent metal cation transport mediator 3 [Source:HGNC Symbol;Acc:HGNC:104]
196 CNOT2 CCR4-NOT transcription complex subunit 2 [Source:HGNC Symbol;Acc:HGNC:7878]
197 COBL cordon-bleu WH2 repeat protein [Source:HGNC Symbol;Acc:HGNC:22199]
198 COCH cochlin [Source:HGNC Symbol;Acc:HGNC:2180]
199 COL15A1 collagen type XV alpha 1 chain [Source:HGNC Symbol;Acc:HGNC:2192]
200 COL16A1 collagen type XVI alpha 1 chain [Source:HGNC Symbol;Acc:HGNC:2193]
201 COL4A3 collagen type IV alpha 3 chain [Source:HGNC Symbol;Acc:HGNC:2204]
202 COMMD1 copper metabolism domain containing 1 [Source:HGNC Symbol;Acc:HGNC:23024]
203 COPA coatomer protein complex subunit alpha [Source:HGNC Symbol;Acc:HGNC:2230]
204 CPEB1 cytoplasmic polyadenylation element binding protein 1 [Source:HGNC Symbol;Acc:HGNC:21744]

205 CRAT carnitine O-acetyltransferase [Source:HGNC Symbol;Acc:HGNC:2342]
206 CRHR2 corticotropin releasing hormone receptor 2 [Source:HGNC Symbol;Acc:HGNC:2358]
207 CRLF3 cytokine receptor like factor 3 [Source:HGNC Symbol;Acc:HGNC:17177]
208 CTBP1 C-terminal binding protein 1 [Source:HGNC Symbol;Acc:HGNC:2494]
209 CTC-273B12.7 N/A
210 CTD-3088G3.8 LOC400499
211 CTNNA2 catenin alpha 2 [Source:HGNC Symbol;Acc:HGNC:2510]
212 CTTN cortactin [Source:HGNC Symbol;Acc:HGNC:3338]
213 CTTNBP2 cortactin binding protein 2 [Source:HGNC Symbol;Acc:HGNC:15679]
214 CUL4A cullin 4A [Source:HGNC Symbol;Acc:HGNC:2554]
215 CUL9 cullin 9 [Source:HGNC Symbol;Acc:HGNC:15982]
216 CWF19L1 CWF19-like 1, cell cycle control (S. pombe) [Source:HGNC Symbol;Acc:HGNC:25613]
217 CXCL14 C-X-C motif chemokine ligand 14 [Source:HGNC Symbol;Acc:HGNC:10640]
218 CXORF40B chromosome X open reading frame 40B [Source:HGNC Symbol;Acc:HGNC:17402]
219 CYGB cytoglobin [Source:HGNC Symbol;Acc:HGNC:16505]
220 CYP11A1 cytochrome P450 family 11 subfamily A member 1 [Source:HGNC Symbol;Acc:HGNC:2590]
221 CYP1B1 cytochrome P450 family 1 subfamily B member 1 [Source:HGNC Symbol;Acc:HGNC:2597]
222 CYP2U1 cytochrome P450 family 2 subfamily U member 1 [Source:HGNC Symbol;Acc:HGNC:20582]
223 CYP46A1 cytochrome P450 family 46 subfamily A member 1 [Source:HGNC Symbol;Acc:HGNC:2641]
224 CYTH2 cytohesin 2 [Source:HGNC Symbol;Acc:HGNC:9502]
225 DAAM2 dishevelled associated activator of morphogenesis 2 [Source:HGNC Symbol;Acc:HGNC:18143]
226 DAGLA diacylglycerol lipase alpha [Source:HGNC Symbol;Acc:HGNC:1165]
227 DAK triokinase and FMN cyclase [Source:HGNC Symbol;Acc:HGNC:24552]
228 DAOA D-amino acid oxidase activator [Source:HGNC Symbol;Acc:HGNC:21191]
229 DAPK2 death associated protein kinase 2 [Source:HGNC Symbol;Acc:HGNC:2675]
230 DARS aspartyl-tRNA synthetase [Source:HGNC Symbol;Acc:HGNC:2678]
231 DBH dopamine beta-hydroxylase [Source:HGNC Symbol;Acc:HGNC:2689]
232 DBNDD2 dysbindin domain containing 2 [Source:HGNC Symbol;Acc:HGNC:15881]
233 DCTN1 dynactin subunit 1 [Source:HGNC Symbol;Acc:HGNC:2711]
234 DDN dendrin [Source:HGNC Symbol;Acc:HGNC:24458]

235 DDX11 DEAD/H-box helicase 11 [Source:HGNC Symbol;Acc:HGNC:2736]
236 DDX20 DEAD-box helicase 20 [Source:HGNC Symbol;Acc:HGNC:2743]
237 DDX27 DEAD-box helicase 27 [Source:HGNC Symbol;Acc:HGNC:15837]
238 DEPTOR DEP domain containing MTOR-interacting protein [Source:HGNC Symbol;Acc:HGNC:22953]
239 DERL1 derlin 1 [Source:HGNC Symbol;Acc:HGNC:28454]
240 DGAT2 diacylglycerol O-acyltransferase 2 [Source:HGNC Symbol;Acc:HGNC:16940]
241 DHCR24 24-dehydrocholesterol reductase [Source:HGNC Symbol;Acc:HGNC:2859]
242 DHH desert hedgehog [Source:HGNC Symbol;Acc:HGNC:2865]
243 DHRS13 dehydrogenase/reductase 13 [Source:HGNC Symbol;Acc:HGNC:28326]
244 DHX57 DExH-box helicase 57 [Source:HGNC Symbol;Acc:HGNC:20086]
245 DICER1 dicer 1, ribonuclease III [Source:HGNC Symbol;Acc:HGNC:17098]
246 DKFZP434H0512 N/A
247 DLG1 discs large MAGUK scaffold protein 1 [Source:HGNC Symbol;Acc:HGNC:2900]
248 DLG2 discs large MAGUK scaffold protein 2 [Source:HGNC Symbol;Acc:HGNC:2901]
249 DLGAP2 DLG associated protein 2 [Source:HGNC Symbol;Acc:HGNC:2906]
250 DMTF1 cyclin D binding myb like transcription factor 1 [Source:HGNC Symbol;Acc:HGNC:14603]
251 DNAJB13 DnaJ heat shock protein family (Hsp40) member B13 [Source:HGNC Symbol;Acc:HGNC:30718]
252 DNAJB8 DnaJ heat shock protein family (Hsp40) member B8 [Source:HGNC Symbol;Acc:HGNC:23699]
253 DNAJB9 DnaJ heat shock protein family (Hsp40) member B9 [Source:HGNC Symbol;Acc:HGNC:6968]
254 DNAJC27 DnaJ heat shock protein family (Hsp40) member C27 [Source:HGNC Symbol;Acc:HGNC:30290]
255 DNALI1 dynein axonemal light intermediate chain 1 [Source:HGNC Symbol;Acc:HGNC:14353]
256 DND1 DND microRNA-mediated repression inhibitor 1 [Source:HGNC Symbol;Acc:HGNC:23799]
257 DNPEP aspartyl aminopeptidase [Source:HGNC Symbol;Acc:HGNC:2981]
258 DOK3 docking protein 3 [Source:HGNC Symbol;Acc:HGNC:24583]
259 DPCR1 diffuse panbronchiolitis critical region 1 [Source:HGNC Symbol;Acc:HGNC:21666]
260 DPM2 dolichyl-phosphate mannosyltransferase subunit 2, regulatory [Source:HGNC Symbol;Acc:HGNC:3006]
261 DPP3 dipeptidyl peptidase 3 [Source:HGNC Symbol;Acc:HGNC:3008]
262 DPP4 dipeptidyl peptidase 4 [Source:HGNC Symbol;Acc:HGNC:3009]
263 DPP9 dipeptidyl peptidase 9 [Source:HGNC Symbol;Acc:HGNC:18648]
264 DR1 down-regulator of transcription 1 [Source:HGNC Symbol;Acc:HGNC:3017]

265 DSC1 desmocollin 1 [Source:HGNC Symbol;Acc:HGNC:3035]
266 DTNA dystrobrevin alpha [Source:HGNC Symbol;Acc:HGNC:3057]
267 DYNC1LI2 dynein cytoplasmic 1 light intermediate chain 2 [Source:HGNC Symbol;Acc:HGNC:2966]
268 DYNLRB2 dynein light chain roadblock-type 2 [Source:HGNC Symbol;Acc:HGNC:15467]
269 EAF1 ELL associated factor 1 [Source:HGNC Symbol;Acc:HGNC:20907]
270 ECE1 endothelin converting enzyme 1 [Source:HGNC Symbol;Acc:HGNC:3146]
271 EDC3 enhancer of mRNA decapping 3 [Source:HGNC Symbol;Acc:HGNC:26114]
272 EDNRB endothelin receptor type B [Source:HGNC Symbol;Acc:HGNC:3180]
273 EFCAB14 EF-hand calcium binding domain 14 [Source:HGNC Symbol;Acc:HGNC:29051]
274 EGR3 early growth response 3 [Source:HGNC Symbol;Acc:HGNC:3240]
275 EIF2AK3 eukaryotic translation initiation factor 2 alpha kinase 3 [Source:HGNC Symbol;Acc:HGNC:3255]
EIF4ENIF1 eukaryotic translation initiation factor 4E nuclear import factor 1 [Source:HGNC Symbol;Acc:HGNC:16687]
276
277 ELF3 E74 like ETS transcription factor 3 [Source:HGNC Symbol;Acc:HGNC:3318]
ELFN2 extracellular leucine rich repeat and fibronectin type III domain containing 2 [Source:HGNC
Symbol;Acc:HGNC:29396]
278
279 ELL2 elongation factor for RNA polymerase II 2 [Source:HGNC Symbol;Acc:HGNC:17064]
280 ELN elastin [Source:HGNC Symbol;Acc:HGNC:3327]
281 EMC3 ER membrane protein complex subunit 3 [Source:HGNC Symbol;Acc:HGNC:23999]
282 EML2 echinoderm microtubule associated protein like 2 [Source:HGNC Symbol;Acc:HGNC:18035]
283 EML3 echinoderm microtubule associated protein like 3 [Source:HGNC Symbol;Acc:HGNC:26666]
284 ENDOU endonuclease, poly(U) specific [Source:HGNC Symbol;Acc:HGNC:14369]
285 ENG endoglin [Source:HGNC Symbol;Acc:HGNC:3349]
286 ENHO energy homeostasis associated [Source:HGNC Symbol;Acc:HGNC:24838]
287 ENO4 enolase family member 4 [Source:HGNC Symbol;Acc:HGNC:31670]
288 ENPEP glutamyl aminopeptidase [Source:HGNC Symbol;Acc:HGNC:3355]
289 ENTPD1 ectonucleoside triphosphate diphosphohydrolase 1 [Source:HGNC Symbol;Acc:HGNC:3363]
290 ENTPD3 ectonucleoside triphosphate diphosphohydrolase 3 [Source:HGNC Symbol;Acc:HGNC:3365]
291 EP300 E1A binding protein p300 [Source:HGNC Symbol;Acc:HGNC:3373]
292 EPM2A epilepsy, progressive myoclonus type 2A, Lafora disease (laforin) [Source:HGNC Symbol;Acc:HGNC:3413]

293 EPN3 epsin 3 [Source:HGNC Symbol;Acc:HGNC:18235]
294 ERC1 ELKS/RAB6-interacting/CAST family member 1 [Source:HGNC Symbol;Acc:HGNC:17072]
295 ERCC6L2 ERCC excision repair 6 like 2 [Source:HGNC Symbol;Acc:HGNC:26922]
ERMAP erythroblast membrane associated protein (Scianna blood group) [Source:HGNC
296 Symbol;Acc:HGNC:15743]
297 ETNK2 ethanolamine kinase 2 [Source:HGNC Symbol;Acc:HGNC:25575]
298 EVA1B eva-1 homolog B [Source:HGNC Symbol;Acc:HGNC:25558]
299 EVPLL envoplakin like [Source:HGNC Symbol;Acc:HGNC:35236]
300 EXOSC10 exosome component 10 [Source:HGNC Symbol;Acc:HGNC:9138]
301 EXTL3 exostosin like glycosyltransferase 3 [Source:HGNC Symbol;Acc:HGNC:3518]
302 EYA4 EYA transcriptional coactivator and phosphatase 4 [Source:HGNC Symbol;Acc:HGNC:3522]
303 FABP6 fatty acid binding protein 6 [Source:HGNC Symbol;Acc:HGNC:3561]
304 FADD Fas associated via death domain [Source:HGNC Symbol;Acc:HGNC:3573]
305 FAM102A family with sequence similarity 102 member A [Source:HGNC Symbol;Acc:HGNC:31419]
306 FAM13A family with sequence similarity 13 member A [Source:HGNC Symbol;Acc:HGNC:19367]
307 FAM173B family with sequence similarity 173 member B [Source:HGNC Symbol;Acc:HGNC:27029]
308 FAM178A SMC5-SMC6 complex localization factor 2 [Source:HGNC Symbol;Acc:HGNC:17814]
309 FAM181A family with sequence similarity 181 member A [Source:HGNC Symbol;Acc:HGNC:20491]
310 FAM186B family with sequence similarity 186 member B [Source:HGNC Symbol;Acc:HGNC:25296]
311 FAM187A family with sequence similarity 187 member A [Source:HGNC Symbol;Acc:HGNC:35153]
312 FAM198B family with sequence similarity 198 member B [Source:HGNC Symbol;Acc:HGNC:25312]
313 FAM211A N/A
FAM215A family with sequence similarity 215 member A (non-protein coding) [Source:HGNC
314 Symbol;Acc:HGNC:17505]
315 FAM21C family with sequence similarity 21 member C [Source:HGNC Symbol;Acc:HGNC:23414]
316 FAM26F family with sequence similarity 26 member F [Source:HGNC Symbol;Acc:HGNC:33391]
317 FAM49B family with sequence similarity 49 member B [Source:HGNC Symbol;Acc:HGNC:25216]
318 FAM63B family with sequence similarity 63 member B [Source:HGNC Symbol;Acc:HGNC:26954]
319 FAM83F family with sequence similarity 83 member F [Source:HGNC Symbol;Acc:HGNC:25148]
320 FANCD2 Fanconi anemia complementation group D2 [Source:HGNC Symbol;Acc:HGNC:3585]

321 FAP fibroblast activation protein alpha [Source:HGNC Symbol;Acc:HGNC:3590]
322 FAR2 fatty acyl-CoA reductase 2 [Source:HGNC Symbol;Acc:HGNC:25531]
323 FAT2 FAT atypical cadherin 2 [Source:HGNC Symbol;Acc:HGNC:3596]
324 FAU FAU, ubiquitin like and ribosomal protein S30 fusion [Source:HGNC Symbol;Acc:HGNC:3597]
325 FBXL15 F-box and leucine rich repeat protein 15 [Source:HGNC Symbol;Acc:HGNC:28155]
326 FBXL19 F-box and leucine rich repeat protein 19 [Source:HGNC Symbol;Acc:HGNC:25300]
327 FBXL22 F-box and leucine rich repeat protein 22 [Source:HGNC Symbol;Acc:HGNC:27537]
328 FBXO11 F-box protein 11 [Source:HGNC Symbol;Acc:HGNC:13590]
329 FBXO18 F-box protein, helicase, 18 [Source:HGNC Symbol;Acc:HGNC:13620]
330 FBXW8 F-box and WD repeat domain containing 8 [Source:HGNC Symbol;Acc:HGNC:13597]
331 FDPS farnesyl diphosphate synthase [Source:HGNC Symbol;Acc:HGNC:3631]
332 FER1L6 fer-1 like family member 6 [Source:HGNC Symbol;Acc:HGNC:28065]
333 FGD5 FYVE, RhoGEF and PH domain containing 5 [Source:HGNC Symbol;Acc:HGNC:19117]
334 FGFR1 fibroblast growth factor receptor 1 [Source:HGNC Symbol;Acc:HGNC:3688]
335 FGL1 fibrinogen like 1 [Source:HGNC Symbol;Acc:HGNC:3695]
336 FKBP4 FK506 binding protein 4 [Source:HGNC Symbol;Acc:HGNC:3720]
336 FKBP4 FK506 binding protein like [Source:HGNC Symbol;Acc:HGNC:13949]
337 FKBP8 FK506 binding protein 8 [Source:HGNC Symbol;Acc:HGNC:3724]
338 FLG filaggrin [Source:HGNC Symbol;Acc:HGNC:3748]
339 FLI1 Fli-1 proto-oncogene, ETS transcription factor [Source:HGNC Symbol;Acc:HGNC:3749]
340 FLNB filamin B [Source:HGNC Symbol;Acc:HGNC:3755]
 FLVCR2 feline leukemia virus subgroup C cellular receptor family member 2 [Source:HGNC
341 Symbol;Acc:HGNC:20105]
342 FMNL1 formin like 1 [Source:HGNC Symbol;Acc:HGNC:1212]
343 FOXJ1 forkhead box J1 [Source:HGNC Symbol;Acc:HGNC:3816]
344 FRMD4A FERM domain containing 4A [Source:HGNC Symbol;Acc:HGNC:25491]
345 FSIP1 fibrous sheath interacting protein 1 [Source:HGNC Symbol;Acc:HGNC:21674]
346 FTSJ3 FtsJ homolog 3 [Source:HGNC Symbol;Acc:HGNC:17136]
347 FUT4 fucosyltransferase 4 [Source:HGNC Symbol;Acc:HGNC:4015]
348 FXYD2 FXYD domain containing ion transport regulator 2 [Source:HGNC Symbol;Acc:HGNC:4026]

349 FXYD6 FXYD domain containing ion transport regulator 6 [Source:HGNC Symbol;Acc:HGNC:4030]
350 FXYD6-FXYD2 FXYD6-FXYD2 readthrough [Source:HGNC Symbol;Acc:HGNC:39978]
351 FZD4 frizzled class receptor 4 [Source:HGNC Symbol;Acc:HGNC:4042]
352 FZD6 frizzled class receptor 6 [Source:HGNC Symbol;Acc:HGNC:4044]
353 GABARAPL1 GABA type A receptor associated protein like 1 [Source:HGNC Symbol;Acc:HGNC:4068]
354 GABRP gamma-aminobutyric acid type A receptor pi subunit [Source:HGNC Symbol;Acc:HGNC:4089]
355 GALNT16 polypeptide N-acetylgalactosaminyltransferase 16 [Source:HGNC Symbol;Acc:HGNC:23233]
356 GAPDHS glyceraldehyde-3-phosphate dehydrogenase, spermatogenic [Source:HGNC Symbol;Acc:HGNC:24864]
357 GARS glycyl-tRNA synthetase [Source:HGNC Symbol;Acc:HGNC:4162]
358 GBX2 gastrulation brain homeobox 2 [Source:HGNC Symbol;Acc:HGNC:4186]
359 GCC2 GRIP and coiled-coil domain containing 2 [Source:HGNC Symbol;Acc:HGNC:23218]
360 GCSAM germinal center associated signaling and motility [Source:HGNC Symbol;Acc:HGNC:20253]
361 GDE1 glycerophosphodiester phosphodiesterase 1 [Source:HGNC Symbol;Acc:HGNC:29644]
362 GET4 golgi to ER traffic protein 4 [Source:HGNC Symbol;Acc:HGNC:21690]
363 GGNBP1 gametogenetin binding protein 1 (pseudogene) [Source:HGNC Symbol;Acc:HGNC:19427]
364 GHITM growth hormone inducible transmembrane protein [Source:HGNC Symbol;Acc:HGNC:17281]
365 GHRL ghrelin and obestatin prepropeptide [Source:HGNC Symbol;Acc:HGNC:18129]
366 GINS4 GINS complex subunit 4 [Source:HGNC Symbol;Acc:HGNC:28226]
367 GK glycerol kinase [Source:HGNC Symbol;Acc:HGNC:4289]
368 GLE1 GLE1, RNA export mediator [Source:HGNC Symbol;Acc:HGNC:4315]
369 GLIS3 GLIS family zinc finger 3 [Source:HGNC Symbol;Acc:HGNC:28510]
370 GLYCK glycerate kinase [Source:HGNC Symbol;Acc:HGNC:24247]
371 GNA15 G protein subunit alpha 15 [Source:HGNC Symbol;Acc:HGNC:4383]
372 GNAL G protein subunit alpha L [Source:HGNC Symbol;Acc:HGNC:4388]
373 GNB3 G protein subunit beta 3 [Source:HGNC Symbol;Acc:HGNC:4400]
374 GNB5 G protein subunit beta 5 [Source:HGNC Symbol;Acc:HGNC:4401]
375 GNPDA2 glucosamine-6-phosphate deaminase 2 [Source:HGNC Symbol;Acc:HGNC:21526]
376 GNRHR gonadotropin releasing hormone receptor [Source:HGNC Symbol;Acc:HGNC:4421]
377 GOT2 glutamic-oxaloacetic transaminase 2 [Source:HGNC Symbol;Acc:HGNC:4433]
378 GPR113 N/A

379 GRK6 G protein-coupled receptor kinase 6 [Source:HGNC Symbol;Acc:HGNC:4545]
380 GRPEL2 GrpE like 2, mitochondrial [Source:HGNC Symbol;Acc:HGNC:21060]
381 GSN gelsolin [Source:HGNC Symbol;Acc:HGNC:4620]
382 GSTM3 glutathione S-transferase mu 3 [Source:HGNC Symbol;Acc:HGNC:4635]
383 GTDC1 glycosyltransferase like domain containing 1 [Source:HGNC Symbol;Acc:HGNC:20887]
384 GTF2I general transcription factor Iii [Source:HGNC Symbol;Acc:HGNC:4659]
385 GTF3C2 general transcription factor IIIC subunit 2 [Source:HGNC Symbol;Acc:HGNC:4665]
386 GTF3C4 general transcription factor IIIC subunit 4 [Source:HGNC Symbol;Acc:HGNC:4667]
387 GYS2 glycogen synthase 2 [Source:HGNC Symbol;Acc:HGNC:4707]
388 GZMK granzyme K [Source:HGNC Symbol;Acc:HGNC:4711]
389 H1FX H1 histone family member X [Source:HGNC Symbol;Acc:HGNC:4722]
390 H2AFY H2A histone family member Y [Source:HGNC Symbol;Acc:HGNC:4740]
391 H2AFZ H2A histone family member Z [Source:HGNC Symbol;Acc:HGNC:4741]
392 H3F3A H3 histone family member 3B [Source:HGNC Symbol;Acc:HGNC:4765]
392 H3F3A H3 histone family member 3A [Source:HGNC Symbol;Acc:HGNC:4764]
393 HAND2 heart and neural crest derivatives expressed 2 [Source:HGNC Symbol;Acc:HGNC:4808]
394 HARS histidyl-tRNA synthetase [Source:HGNC Symbol;Acc:HGNC:4816]
 HCN2 hyperpolarization activated cyclic nucleotide gated potassium channel 2 [Source:HGNC
395 Symbol;Acc:HGNC:4846]
396 HCRTR1 hypocretin receptor 1 [Source:HGNC Symbol;Acc:HGNC:4848]
397 HDAC11 histone deacetylase 11 [Source:HGNC Symbol;Acc:HGNC:19086]
398 HDAC2 histone deacetylase 2 [Source:HGNC Symbol;Acc:HGNC:4853]
399 HDHD2 haloacid dehalogenase like hydrolase domain containing 2 [Source:HGNC Symbol;Acc:HGNC:25364]
400 HEATR5A HEAT repeat containing 5A [Source:HGNC Symbol;Acc:HGNC:20276]
401 HECA hdc homolog, cell cycle regulator [Source:HGNC Symbol;Acc:HGNC:21041]
 HECW1 HECT, C2 and WW domain containing E3 ubiquitin protein ligase 1 [Source:HGNC
402 Symbol;Acc:HGNC:22195]
403 HERPUD2 HERPUD family member 2 [Source:HGNC Symbol;Acc:HGNC:21915]
404 HEXA hexosaminidase subunit alpha [Source:HGNC Symbol;Acc:HGNC:4878]
405 HEXIM2 hexamethylene bisacetamide inducible 2 [Source:HGNC Symbol;Acc:HGNC:28591]

406	HHATL	hedgehog acyltransferase-like [Source:HGNC Symbol;Acc:HGNC:13242]
407	HIST2H3PS2	N/A
408	HK2	hexokinase 2 [Source:HGNC Symbol;Acc:HGNC:4923]
409	HLX	H2.0 like homeobox [Source:HGNC Symbol;Acc:HGNC:4978]
410	HOMER3	homer scaffolding protein 3 [Source:HGNC Symbol;Acc:HGNC:17514]
411	HSD17B1	hydroxysteroid 17-beta dehydrogenase 1 [Source:HGNC Symbol;Acc:HGNC:5210]
412	HSD17B2	hydroxysteroid 17-beta dehydrogenase 2 [Source:HGNC Symbol;Acc:HGNC:5211]
413	HSFY1	heat shock transcription factor, Y-linked 2 [Source:HGNC Symbol;Acc:HGNC:23950]
413	HSFY1	heat shock transcription factor, Y-linked 1 [Source:HGNC Symbol;Acc:HGNC:18568]
414	HSFY2	heat shock transcription factor, Y-linked 2 [Source:HGNC Symbol;Acc:HGNC:23950]
415	HSP90AA1	heat shock protein 90 alpha family class A member 1 [Source:HGNC Symbol;Acc:HGNC:5253]
416	HSP90B1	heat shock protein 90 beta family member 1 [Source:HGNC Symbol;Acc:HGNC:12028]
417	HSPG2	heparan sulfate proteoglycan 2 [Source:HGNC Symbol;Acc:HGNC:5273]
418	ICAM1	intercellular adhesion molecule 1 [Source:HGNC Symbol;Acc:HGNC:5344]
419	ID2	inhibitor of DNA binding 2, HLH protein [Source:HGNC Symbol;Acc:HGNC:5361]
420	IFNAR2	interferon alpha and beta receptor subunit 2 [Source:HGNC Symbol;Acc:HGNC:5433]
	IGFN1	immunoglobulin-like and fibronectin type III domain containing 1 [Source:HGNC Symbol;Acc:HGNC:24607]
421		
422	IGLL1	immunoglobulin lambda like polypeptide 1 [Source:HGNC Symbol;Acc:HGNC:5870]
423	IGSF22	immunoglobulin superfamily member 22 [Source:HGNC Symbol;Acc:HGNC:26750]
424	IKZF5	IKAROS family zinc finger 5 [Source:HGNC Symbol;Acc:HGNC:14283]
425	IL12A	interleukin 12A [Source:HGNC Symbol;Acc:HGNC:5969]
426	IL16	interleukin 16 [Source:HGNC Symbol;Acc:HGNC:5980]
427	IL17RB	interleukin 17 receptor B [Source:HGNC Symbol;Acc:HGNC:18015]
428	IL21	interleukin 21 [Source:HGNC Symbol;Acc:HGNC:6005]
429	IL21R	interleukin 21 receptor [Source:HGNC Symbol;Acc:HGNC:6006]
430	IL2RA	interleukin 2 receptor subunit alpha [Source:HGNC Symbol;Acc:HGNC:6008]
431	IMMT	inner membrane mitochondrial protein [Source:HGNC Symbol;Acc:HGNC:6047]
432	IMP3	IMP3, U3 small nucleolar ribonucleoprotein [Source:HGNC Symbol;Acc:HGNC:14497]
433	INTS6	integrator complex subunit 6 [Source:HGNC Symbol;Acc:HGNC:14879]

434 IPO9 importin 9 [Source:HGNC Symbol;Acc:HGNC:19425]
435 IQCC IQ motif containing C [Source:HGNC Symbol;Acc:HGNC:25545]
436 IQCF5 IQ motif containing F5 [Source:HGNC Symbol;Acc:HGNC:35159]
437 IQCH IQ motif containing H [Source:HGNC Symbol;Acc:HGNC:25721]
438 IQSEC3 IQ motif and Sec7 domain 3 [Source:HGNC Symbol;Acc:HGNC:29193]
439 IRAK3 interleukin 1 receptor associated kinase 3 [Source:HGNC Symbol;Acc:HGNC:17020]
440 ITFG1 integrin alpha FG-GAP repeat containing 1 [Source:HGNC Symbol;Acc:HGNC:30697]
441 ITFG2 integrin alpha FG-GAP repeat containing 2 [Source:HGNC Symbol;Acc:HGNC:30879]
442 ITGA5 integrin subunit alpha 5 [Source:HGNC Symbol;Acc:HGNC:6141]
443 ITGA6 integrin subunit alpha 6 [Source:HGNC Symbol;Acc:HGNC:6142]
444 ITGAL integrin subunit alpha L [Source:HGNC Symbol;Acc:HGNC:6148]
445 ITLN2 intelectin 2 [Source:HGNC Symbol;Acc:HGNC:20599]
446 IWS1 IWS1, SUPT6H interacting protein [Source:HGNC Symbol;Acc:HGNC:25467]
447 JAG1 jagged 1 [Source:HGNC Symbol;Acc:HGNC:6188]
448 JAKMIP3 Janus kinase and microtubule interacting protein 3 [Source:HGNC Symbol;Acc:HGNC:23523]
449 JAM3 junctional adhesion molecule 3 [Source:HGNC Symbol;Acc:HGNC:15532]
450 KANSL1L KAT8 regulatory NSL complex subunit 1 like [Source:HGNC Symbol;Acc:HGNC:26310]
451 KAZN kazrin, periplakin interacting protein [Source:HGNC Symbol;Acc:HGNC:29173]
 KCNE3 potassium voltage-gated channel subfamily E regulatory subunit 3 [Source:HGNC Symbol;Acc:HGNC:6243]
452
453 KCNJ16 potassium voltage-gated channel subfamily J member 16 [Source:HGNC Symbol;Acc:HGNC:6262]
454 KCNK15 potassium two pore domain channel subfamily K member 15 [Source:HGNC Symbol;Acc:HGNC:13814]
455 KCNMA1 potassium calcium-activated channel subfamily M alpha 1 [Source:HGNC Symbol;Acc:HGNC:6284]
 KCNMB1 potassium calcium-activated channel subfamily M regulatory beta subunit 1 [Source:HGNC
456 Symbol;Acc:HGNC:6285]
457 KCNQ1 potassium voltage-gated channel subfamily Q member 1 [Source:HGNC Symbol;Acc:HGNC:6294]
458 KCTD13 potassium channel tetramerization domain containing 13 [Source:HGNC Symbol;Acc:HGNC:22234]
459 KCTD21 potassium channel tetramerization domain containing 21 [Source:HGNC Symbol;Acc:HGNC:27452]
460 KDM8 lysine demethylase 8 [Source:HGNC Symbol;Acc:HGNC:25840]
461 KIAA0100 KIAA0100 [Source:HGNC Symbol;Acc:HGNC:28960]

462 KIAA0556 KIAA0556 [Source:HGNC Symbol;Acc:HGNC:29068]
463 KIAA0586 KIAA0586 [Source:HGNC Symbol;Acc:HGNC:19960]
464 KIAA1614 KIAA1614 [Source:HGNC Symbol;Acc:HGNC:29327]
465 KIF1C kinesin family member 1C [Source:HGNC Symbol;Acc:HGNC:6317]
466 KIF23 kinesin family member 23 [Source:HGNC Symbol;Acc:HGNC:6392]
467 KIF2C kinesin family member 2C [Source:HGNC Symbol;Acc:HGNC:6393]
468 KIF4A kinesin family member 4A [Source:HGNC Symbol;Acc:HGNC:13339]
469 KIF9 kinesin family member 9 [Source:HGNC Symbol;Acc:HGNC:16666]
470 KLC2 kinesin light chain 2 [Source:HGNC Symbol;Acc:HGNC:20716]
471 KLF3 Kruppel like factor 3 [Source:HGNC Symbol;Acc:HGNC:16516]
472 KLK10 kallikrein related peptidase 10 [Source:HGNC Symbol;Acc:HGNC:6358]
473 KLK5 kallikrein related peptidase 5 [Source:HGNC Symbol;Acc:HGNC:6366]
474 KLK6 kallikrein related peptidase 6 [Source:HGNC Symbol;Acc:HGNC:6367]
475 KMT2A lysine methyltransferase 2A [Source:HGNC Symbol;Acc:HGNC:7132]
476 KMT2E lysine methyltransferase 2E [Source:HGNC Symbol;Acc:HGNC:18541]
477 KNG1 kininogen 1 [Source:HGNC Symbol;Acc:HGNC:6383]
478 KNOP1 lysine rich nucleolar protein 1 [Source:HGNC Symbol;Acc:HGNC:34404]
479 KRBA2 KRAB-A domain containing 2 [Source:HGNC Symbol;Acc:HGNC:26989]
480 KRT13 keratin 13 [Source:HGNC Symbol;Acc:HGNC:6415]
481 KRT37 keratin 37 [Source:HGNC Symbol;Acc:HGNC:6455]
482 KRT7 keratin 7 [Source:HGNC Symbol;Acc:HGNC:6445]
483 KRT72 keratin 72 [Source:HGNC Symbol;Acc:HGNC:28932]
484 KRT73 keratin 73 [Source:HGNC Symbol;Acc:HGNC:28928]
485 KRT75 keratin 75 [Source:HGNC Symbol;Acc:HGNC:24431]
486 KRT84 keratin 84 [Source:HGNC Symbol;Acc:HGNC:6461]
487 KRT86 keratin 86 [Source:HGNC Symbol;Acc:HGNC:6463]
488 KTN1 kinectin 1 [Source:HGNC Symbol;Acc:HGNC:6467]
489 KXD1 KxDL motif containing 1 [Source:HGNC Symbol;Acc:HGNC:28420]
490 L2HGDH L-2-hydroxyglutarate dehydrogenase [Source:HGNC Symbol;Acc:HGNC:20499]
491 L3MBTL2 L3MBTL2 polycomb repressive complex 1 subunit [Source:HGNC Symbol;Acc:HGNC:18594]

492 L3MBTL4 I(3)mbt-like 4 (Drosophila) [Source:HGNC Symbol;Acc:HGNC:26677]
493 LAMP5 lysosomal associated membrane protein family member 5 [Source:HGNC Symbol;Acc:HGNC:16097]
494 LAMTOR5 late endosomal/lysosomal adaptor, MAPK and MTOR activator 5 [Source:HGNC Symbol;Acc:HGNC:17955]
495 LAT linker for activation of T-cells [Source:HGNC Symbol;Acc:HGNC:18874]
496 LBX1 ladybird homeobox 1 [Source:HGNC Symbol;Acc:HGNC:16960]
497 LCA10 lung carcinoma-associated 10 [Source:EntrezGene;Acc:100996465]
498 LCT lactase [Source:HGNC Symbol;Acc:HGNC:6530]
499 LDLRAD2 low density lipoprotein receptor class A domain containing 2 [Source:HGNC Symbol;Acc:HGNC:32071]
500 LECT2 leukocyte cell derived chemotaxin 2 [Source:HGNC Symbol;Acc:HGNC:6550]
501 LGI3 leucine rich repeat LGI family member 3 [Source:HGNC Symbol;Acc:HGNC:18711]
502 LHX4 LIM homeobox 4 [Source:HGNC Symbol;Acc:HGNC:21734]
503 LIF leukemia inhibitory factor [Source:HGNC Symbol;Acc:HGNC:6596]
504 LIFR leukemia inhibitory factor receptor alpha [Source:HGNC Symbol;Acc:HGNC:6597]
505 LIN37 lin-37 DREAM MuvB core complex component [Source:HGNC Symbol;Acc:HGNC:33234]
506 LIPE lipase E, hormone sensitive type [Source:HGNC Symbol;Acc:HGNC:6621]
507 LIX1L limb and CNS expressed 1 like [Source:HGNC Symbol;Acc:HGNC:28715]
508 LNX1 ligand of numb-protein X 1 [Source:HGNC Symbol;Acc:HGNC:6657]
509 LOXL1 lysyl oxidase like 1 [Source:HGNC Symbol;Acc:HGNC:6665]
510 LPGAT1 lysophosphatidylglycerol acyltransferase 1 [Source:HGNC Symbol;Acc:HGNC:28985]
511 LPHN1 N/A
512 LPP LIM domain containing preferred translocation partner in lipoma [Source:HGNC Symbol;Acc:HGNC:6679]
513 LRFN4 leucine rich repeat and fibronectin type III domain containing 4 [Source:HGNC Symbol;Acc:HGNC:28456]
514 LRIF1 ligand dependent nuclear receptor interacting factor 1 [Source:HGNC Symbol;Acc:HGNC:30299]
515 LRP4 LDL receptor related protein 4 [Source:HGNC Symbol;Acc:HGNC:6696]
516 LRP8 LDL receptor related protein 8 [Source:HGNC Symbol;Acc:HGNC:6700]
517 LRRC17 leucine rich repeat containing 17 [Source:HGNC Symbol;Acc:HGNC:16895]
518 LRRC32 leucine rich repeat containing 32 [Source:HGNC Symbol;Acc:HGNC:4161]
519 LRRC38 leucine rich repeat containing 38 [Source:HGNC Symbol;Acc:HGNC:27005]
520 LRRC49 leucine rich repeat containing 49 [Source:HGNC Symbol;Acc:HGNC:25965]
521 LRRC59 leucine rich repeat containing 59 [Source:HGNC Symbol;Acc:HGNC:28817]

522 LRRK1 leucine rich repeat kinase 1 [Source:HGNC Symbol;Acc:HGNC:18608]
523 LRRN1 leucine rich repeat neuronal 1 [Source:HGNC Symbol;Acc:HGNC:20980]
LRTOMT leucine rich transmembrane and O-methyltransferase domain containing [Source:HGNC
524 Symbol;Acc:HGNC:25033]
525 LSM1 LSM1 homolog, mRNA degradation associated [Source:HGNC Symbol;Acc:HGNC:20472]
LSM7 LSM7 homolog, U6 small nuclear RNA and mRNA degradation associated [Source:HGNC
526 Symbol;Acc:HGNC:20470]
527 LTBR lymphotoxin beta receptor [Source:HGNC Symbol;Acc:HGNC:6718]
528 LYPD1 LY6/PLAUR domain containing 1 [Source:HGNC Symbol;Acc:HGNC:28431]
529 LYRM9 LYR motif containing 9 [Source:HGNC Symbol;Acc:HGNC:27314]
530 MAATS1 MYCBP associated and testis expressed 1 [Source:HGNC Symbol;Acc:HGNC:24010]
531 MAD2L1 MAD2 mitotic arrest deficient-like 1 (yeast) [Source:HGNC Symbol;Acc:HGNC:6763]
532 MAL2 mal, T-cell differentiation protein 2 (gene/pseudogene) [Source:HGNC Symbol;Acc:HGNC:13634]
533 MAMDC2 MAM domain containing 2 [Source:HGNC Symbol;Acc:HGNC:23673]
534 MAP2K1 mitogen-activated protein kinase kinase 1 [Source:HGNC Symbol;Acc:HGNC:6840]
535 MAP4K1 mitogen-activated protein kinase kinase kinase kinase 1 [Source:HGNC Symbol;Acc:HGNC:6863]
536 MAP9 microtubule associated protein 9 [Source:HGNC Symbol;Acc:HGNC:26118]
537 MAPK7 mitogen-activated protein kinase 7 [Source:HGNC Symbol;Acc:HGNC:6880]
538 MAPKAPK5 mitogen-activated protein kinase-activated protein kinase 5 [Source:HGNC Symbol;Acc:HGNC:6889]
539 MAPT microtubule associated protein tau [Source:HGNC Symbol;Acc:HGNC:6893]
540 MAST3 microtubule associated serine/threonine kinase 3 [Source:HGNC Symbol;Acc:HGNC:19036]
541 MATN1 matrilin 1, cartilage matrix protein [Source:HGNC Symbol;Acc:HGNC:6907]
542 MATR3 matrin 3 [Source:HGNC Symbol;Acc:HGNC:6912]
543 MAX MYC associated factor X [Source:HGNC Symbol;Acc:HGNC:6913]
544 MBNL1 muscleblind like splicing regulator 1 [Source:HGNC Symbol;Acc:HGNC:6923]
545 MBP myelin basic protein [Source:HGNC Symbol;Acc:HGNC:6925]
546 MC1R melanocortin 1 receptor [Source:HGNC Symbol;Acc:HGNC:6929]
547 MCFD2 multiple coagulation factor deficiency 2 [Source:HGNC Symbol;Acc:HGNC:18451]
MCM3AP minichromosome maintenance complex component 3 associated protein [Source:HGNC
548 Symbol;Acc:HGNC:6946]

549 MCPH1 microcephalin 1 [Source:HGNC Symbol;Acc:HGNC:6954]
550 MED12L mediator complex subunit 12 like [Source:HGNC Symbol;Acc:HGNC:16050]
551 MEF2C myocyte enhancer factor 2C [Source:HGNC Symbol;Acc:HGNC:6996]
552 MEST mesoderm specific transcript [Source:HGNC Symbol;Acc:HGNC:7028]
553 METAP1D methionyl aminopeptidase type 1D, mitochondrial [Source:HGNC Symbol;Acc:HGNC:32583]
554 METTL18 methyltransferase like 18 [Source:HGNC Symbol;Acc:HGNC:28793]
555 MFAP3 microfibrillar associated protein 3 [Source:HGNC Symbol;Acc:HGNC:7034]
556 MFF mitochondrial fission factor [Source:HGNC Symbol;Acc:HGNC:24858]
557 MGP matrix Gla protein [Source:HGNC Symbol;Acc:HGNC:7060]
558 MIEN1 migration and invasion enhancer 1 [Source:HGNC Symbol;Acc:HGNC:28230]
559 MIOS meiosis regulator for oocyte development [Source:HGNC Symbol;Acc:HGNC:21905]
560 MKLN1 muskelin 1 [Source:HGNC Symbol;Acc:HGNC:7109]
561 MKNK1 MAP kinase interacting serine/threonine kinase 1 [Source:HGNC Symbol;Acc:HGNC:7110]
562 MKRN3 makorin ring finger protein 3 [Source:HGNC Symbol;Acc:HGNC:7114]
563 MLLT6 MLLT6, PHD finger domain containing [Source:HGNC Symbol;Acc:HGNC:7138]
564 MLTK N/A
565 MME membrane metalloendopeptidase [Source:HGNC Symbol;Acc:HGNC:7154]
566 MMP1 matrix metallopeptidase 1 [Source:HGNC Symbol;Acc:HGNC:7155]
567 MMP16 matrix metallopeptidase 16 [Source:HGNC Symbol;Acc:HGNC:7162]
568 MMP24 matrix metallopeptidase 24 [Source:HGNC Symbol;Acc:HGNC:7172]
569 MMP25 matrix metallopeptidase 25 [Source:HGNC Symbol;Acc:HGNC:14246]
570 MMP3 matrix metallopeptidase 3 [Source:HGNC Symbol;Acc:HGNC:7173]
571 MMP9 matrix metallopeptidase 9 [Source:HGNC Symbol;Acc:HGNC:7176]
572 MORF4L2 mortality factor 4 like 2 [Source:HGNC Symbol;Acc:HGNC:16849]
573 MPND MPN domain containing [Source:HGNC Symbol;Acc:HGNC:25934]
574 MRGPRX1 MAS related GPR family member X1 [Source:HGNC Symbol;Acc:HGNC:17962]
575 MRI1 methylthioribose-1-phosphate isomerase 1 [Source:HGNC Symbol;Acc:HGNC:28469]
576 MRPL23 mitochondrial ribosomal protein L23 [Source:HGNC Symbol;Acc:HGNC:10322]
577 MRPL37 mitochondrial ribosomal protein L37 [Source:HGNC Symbol;Acc:HGNC:14034]
578 MRPL4 mitochondrial ribosomal protein L4 [Source:HGNC Symbol;Acc:HGNC:14276]

579 MRPL51 mitochondrial ribosomal protein L51 [Source:HGNC Symbol;Acc:HGNC:14044]
580 MRV11 murine retrovirus integration site 1 homolog [Source:HGNC Symbol;Acc:HGNC:7237]
581 MSANTD2 Myb/SANT DNA binding domain containing 2 [Source:HGNC Symbol;Acc:HGNC:26266]
582 MSC musculin [Source:HGNC Symbol;Acc:HGNC:7321]
583 MTAP methylthioadenosine phosphorylase [Source:HGNC Symbol;Acc:HGNC:7413]
584 MTERFD3 mitochondrial transcription termination factor 2 [Source:HGNC Symbol;Acc:HGNC:30779]
MTHFD2 methylenetetrahydrofolate dehydrogenase (NADP+ dependent) 2, methenyltetrahydrofolate
585 cyclohydrolase [Source:HGNC Symbol;Acc:HGNC:7434]
586 MTHFR methylenetetrahydrofolate reductase [Source:HGNC Symbol;Acc:HGNC:7436]
587 MTIF3 mitochondrial translational initiation factor 3 [Source:HGNC Symbol;Acc:HGNC:29788]
588 MTMR7 myotubularin related protein 7 [Source:HGNC Symbol;Acc:HGNC:7454]
589 MTMR9 myotubularin related protein 9 [Source:HGNC Symbol;Acc:HGNC:14596]
590 MTX1 metaxin 1 [Source:HGNC Symbol;Acc:HGNC:7504]
591 MUC12 mucin 12, cell surface associated [Source:HGNC Symbol;Acc:HGNC:7510]
592 MUC3A mucin 3A, cell surface associated [Source:HGNC Symbol;Acc:HGNC:7513]
593 MYCBP2 MYC binding protein 2, E3 ubiquitin protein ligase [Source:HGNC Symbol;Acc:HGNC:23386]
594 MYH11 myosin heavy chain 11 [Source:HGNC Symbol;Acc:HGNC:7569]
595 MYL6 myosin light chain 6 [Source:HGNC Symbol;Acc:HGNC:7587]
596 MYL6B myosin light chain 6B [Source:HGNC Symbol;Acc:HGNC:29823]
597 MYLK myosin light chain kinase [Source:HGNC Symbol;Acc:HGNC:7590]
598 MYNN myoneurin [Source:HGNC Symbol;Acc:HGNC:14955]
599 MYO18B myosin XVIIIIB [Source:HGNC Symbol;Acc:HGNC:18150]
600 MYO1D myosin ID [Source:HGNC Symbol;Acc:HGNC:7598]
601 MYO5C myosin VC [Source:HGNC Symbol;Acc:HGNC:7604]
602 MYOM3 myomesin 3 [Source:HGNC Symbol;Acc:HGNC:26679]
603 MYOT myotilin [Source:HGNC Symbol;Acc:HGNC:12399]
604 MYOZ3 myozenin 3 [Source:HGNC Symbol;Acc:HGNC:18565]
605 NAA15 N(alpha)-acetyltransferase 15, NatA auxiliary subunit [Source:HGNC Symbol;Acc:HGNC:30782]
606 NAALADL1 N-acetylated alpha-linked acidic dipeptidase like 1 [Source:HGNC Symbol;Acc:HGNC:23536]
607 NALCN sodium leak channel, non-selective [Source:HGNC Symbol;Acc:HGNC:19082]

608 NANS N-acetylneuraminase synthase [Source:HGNC Symbol;Acc:HGNC:19237]
609 NAPA NSF attachment protein alpha [Source:HGNC Symbol;Acc:HGNC:7641]
610 NAV1 neuron navigator 1 [Source:HGNC Symbol;Acc:HGNC:15989]
611 NCAPD2 non-SMC condensin I complex subunit D2 [Source:HGNC Symbol;Acc:HGNC:24305]
612 NCF4 neutrophil cytosolic factor 4 [Source:HGNC Symbol;Acc:HGNC:7662]
613 NCOR1 nuclear receptor corepressor 1 [Source:HGNC Symbol;Acc:HGNC:7672]
614 NDRG2 NDRG family member 2 [Source:HGNC Symbol;Acc:HGNC:14460]
615 NDST1 N-deacetylase and N-sulfotransferase 1 [Source:HGNC Symbol;Acc:HGNC:7680]
616 NDUFA6 NADH:ubiquinone oxidoreductase subunit A6 [Source:HGNC Symbol;Acc:HGNC:7690]
617 NECAB1 N-terminal EF-hand calcium binding protein 1 [Source:HGNC Symbol;Acc:HGNC:20983]
618 NECAB3 N-terminal EF-hand calcium binding protein 3 [Source:HGNC Symbol;Acc:HGNC:15851]
619 NEGR1 neuronal growth regulator 1 [Source:HGNC Symbol;Acc:HGNC:17302]
620 NFYC nuclear transcription factor Y subunit gamma [Source:HGNC Symbol;Acc:HGNC:7806]
621 NGLY1 N-glycanase 1 [Source:HGNC Symbol;Acc:HGNC:17646]
622 NHSL1 NHS like 1 [Source:HGNC Symbol;Acc:HGNC:21021]
623 NINJ2 ninjurin 2 [Source:HGNC Symbol;Acc:HGNC:7825]
624 NIPAL3 NIPA like domain containing 3 [Source:HGNC Symbol;Acc:HGNC:25233]
625 NIPAL4 NIPA like domain containing 4 [Source:HGNC Symbol;Acc:HGNC:28018]
626 NKX2-1 NK2 homeobox 1 [Source:HGNC Symbol;Acc:HGNC:11825]
627 NMT1 N-myristoyltransferase 1 [Source:HGNC Symbol;Acc:HGNC:7857]
628 NOL3 nucleolar protein 3 [Source:HGNC Symbol;Acc:HGNC:7869]
629 NOP14 NOP14 nucleolar protein [Source:HGNC Symbol;Acc:HGNC:16821]
630 NPHP3 nephrocystin 3 [Source:HGNC Symbol;Acc:HGNC:7907]
631 NPIP11 nuclear pore complex interacting protein family member B11 [Source:HGNC Symbol;Acc:HGNC:37453]
632 NPNT nephronectin [Source:HGNC Symbol;Acc:HGNC:27405]
633 NR2C2 nuclear receptor subfamily 2 group C member 2 [Source:HGNC Symbol;Acc:HGNC:7972]
634 NR4A1 nuclear receptor subfamily 4 group A member 1 [Source:HGNC Symbol;Acc:HGNC:7980]
635 NRD1 nardilysin convertase [Source:HGNC Symbol;Acc:HGNC:7995]
636 NRG1 neurogranin [Source:HGNC Symbol;Acc:HGNC:8000]
637 NUBP1 nucleotide binding protein 1 [Source:HGNC Symbol;Acc:HGNC:8041]

638 NUCB1 nucleobindin 1 [Source:HGNC Symbol;Acc:HGNC:8043]
639 NUDT22 nudix hydrolase 22 [Source:HGNC Symbol;Acc:HGNC:28189]
640 NUF2 NUF2, NDC80 kinetochore complex component [Source:HGNC Symbol;Acc:HGNC:14621]
641 NUMA1 nuclear mitotic apparatus protein 1 [Source:HGNC Symbol;Acc:HGNC:8059]
642 NUP107 nucleoporin 107 [Source:HGNC Symbol;Acc:HGNC:29914]
643 NUP214 nucleoporin 214 [Source:HGNC Symbol;Acc:HGNC:8064]
644 NUTF2 nuclear transport factor 2 [Source:HGNC Symbol;Acc:HGNC:13722]
645 NUTM2A NUT family member 2A [Source:HGNC Symbol;Acc:HGNC:23438]
646 OAS1 2'-5'-oligoadenylate synthetase 1 [Source:HGNC Symbol;Acc:HGNC:8086]
647 ODF3L1 outer dense fiber of sperm tails 3 like 1 [Source:HGNC Symbol;Acc:HGNC:28735]
648 OGFRL1 opioid growth factor receptor like 1 [Source:HGNC Symbol;Acc:HGNC:21378]
649 OR2A42 olfactory receptor family 2 subfamily A member 42 [Source:HGNC Symbol;Acc:HGNC:31230]
650 ORC4 origin recognition complex subunit 4 [Source:HGNC Symbol;Acc:HGNC:8490]
651 OSBPL9 oxysterol binding protein like 9 [Source:HGNC Symbol;Acc:HGNC:16386]
652 OSGEPL1 O-sialoglycoprotein endopeptidase like 1 [Source:HGNC Symbol;Acc:HGNC:23075]
653 P4HA2 prolyl 4-hydroxylase subunit alpha 2 [Source:HGNC Symbol;Acc:HGNC:8547]
654 PAQR5 progesterin and adipoQ receptor family member 5 [Source:HGNC Symbol;Acc:HGNC:29645]
655 PARP2 poly(ADP-ribose) polymerase 2 [Source:HGNC Symbol;Acc:HGNC:272]
656 PAX8 paired box 8 [Source:HGNC Symbol;Acc:HGNC:8622]
657 PCBP1 poly(rC) binding protein 1 [Source:HGNC Symbol;Acc:HGNC:8647]
658 PCF11 PCF11 cleavage and polyadenylation factor subunit [Source:HGNC Symbol;Acc:HGNC:30097]
659 PDE2A phosphodiesterase 2A [Source:HGNC Symbol;Acc:HGNC:8777]
660 PDE4D phosphodiesterase 4D [Source:HGNC Symbol;Acc:HGNC:8783]
661 PDE5A phosphodiesterase 5A [Source:HGNC Symbol;Acc:HGNC:8784]
662 PDE7B phosphodiesterase 7B [Source:HGNC Symbol;Acc:HGNC:8792]
663 PDIA3 protein disulfide isomerase family A member 3 [Source:HGNC Symbol;Acc:HGNC:4606]
664 PDK1 pyruvate dehydrogenase kinase 1 [Source:HGNC Symbol;Acc:HGNC:8809]
665 PDXDC1 pyridoxal dependent decarboxylase domain containing 1 [Source:HGNC Symbol;Acc:HGNC:28995]
666 PEF1 penta-EF-hand domain containing 1 [Source:HGNC Symbol;Acc:HGNC:30009]
667 PELI3 pellino E3 ubiquitin protein ligase family member 3 [Source:HGNC Symbol;Acc:HGNC:30010]

668 PEX1 peroxisomal biogenesis factor 1 [Source:HGNC Symbol;Acc:HGNC:8850]
669 PEX26 peroxisomal biogenesis factor 26 [Source:HGNC Symbol;Acc:HGNC:22965]
670 PEX5L peroxisomal biogenesis factor 5 like [Source:HGNC Symbol;Acc:HGNC:30024]
671 PHC2 polyhomeotic homolog 2 [Source:HGNC Symbol;Acc:HGNC:3183]
672 PHF12 PHD finger protein 12 [Source:HGNC Symbol;Acc:HGNC:20816]
673 PHF20L1 PHD finger protein 20-like 1 [Source:HGNC Symbol;Acc:HGNC:24280]
674 PHLPP2 PH domain and leucine rich repeat protein phosphatase 2 [Source:HGNC Symbol;Acc:HGNC:29149]
675 PIEZO1 piezo type mechanosensitive ion channel component 1 [Source:HGNC Symbol;Acc:HGNC:28993]
676 PIEZO2 piezo type mechanosensitive ion channel component 2 [Source:HGNC Symbol;Acc:HGNC:26270]
677 PIGW phosphatidylinositol glycan anchor biosynthesis class W [Source:HGNC Symbol;Acc:HGNC:23213]
678 PITPNB phosphatidylinositol transfer protein beta [Source:HGNC Symbol;Acc:HGNC:9002]
679 PKD2L2 polycystin 2 like 2, transient receptor potential cation channel [Source:HGNC Symbol;Acc:HGNC:9012]
680 PKIG protein kinase (cAMP-dependent, catalytic) inhibitor gamma [Source:HGNC Symbol;Acc:HGNC:9019]
681 PKP4 plakophilin 4 [Source:HGNC Symbol;Acc:HGNC:9026]
682 PLA2G4C phospholipase A2 group IVC [Source:HGNC Symbol;Acc:HGNC:9037]
683 PLA2G4E phospholipase A2 group IVE [Source:HGNC Symbol;Acc:HGNC:24791]
684 PLCD3 phospholipase C delta 3 [Source:HGNC Symbol;Acc:HGNC:9061]
685 PLCG1 phospholipase C gamma 1 [Source:HGNC Symbol;Acc:HGNC:9065]
686 PLEKHA2 pleckstrin homology domain containing A2 [Source:HGNC Symbol;Acc:HGNC:14336]
687 PLOD3 procollagen-lysine,2-oxoglutarate 5-dioxygenase 3 [Source:HGNC Symbol;Acc:HGNC:9083]
688 PLXDC1 plexin domain containing 1 [Source:HGNC Symbol;Acc:HGNC:20945]
689 PNCK pregnancy up-regulated nonubiquitous CaM kinase [Source:HGNC Symbol;Acc:HGNC:13415]
690 POT1 protection of telomeres 1 [Source:HGNC Symbol;Acc:HGNC:17284]
691 POTEK POTE ankyrin domain family member G [Source:HGNC Symbol;Acc:HGNC:33896]
692 POTEH POTE ankyrin domain family member H [Source:HGNC Symbol;Acc:HGNC:133]
693 POTEM POTE ankyrin domain family member M [Source:HGNC Symbol;Acc:HGNC:37096]
694 PPFIA1 PTPRF interacting protein alpha 1 [Source:HGNC Symbol;Acc:HGNC:9245]
695 PPFIA2 PTPRF interacting protein alpha 2 [Source:HGNC Symbol;Acc:HGNC:9246]
696 PPME1 protein phosphatase methylesterase 1 [Source:HGNC Symbol;Acc:HGNC:30178]
697 PPP2R1A protein phosphatase 2 scaffold subunit Aalpha [Source:HGNC Symbol;Acc:HGNC:9302]

698 PPP3CB protein phosphatase 3 catalytic subunit beta [Source:HGNC Symbol;Acc:HGNC:9315]
699 PPP6R3 protein phosphatase 6 regulatory subunit 3 [Source:HGNC Symbol;Acc:HGNC:1173]
700 PRICKLE2 prickle planar cell polarity protein 2 [Source:HGNC Symbol;Acc:HGNC:20340]
701 PRKAB1 protein kinase AMP-activated non-catalytic subunit beta 1 [Source:HGNC Symbol;Acc:HGNC:9378]
702 PRKAG1 protein kinase AMP-activated non-catalytic subunit gamma 1 [Source:HGNC Symbol;Acc:HGNC:9385]
703 PRKRA protein activator of interferon induced protein kinase EIF2AK2 [Source:HGNC Symbol;Acc:HGNC:9438]
704 PRMT5 protein arginine methyltransferase 5 [Source:HGNC Symbol;Acc:HGNC:10894]
705 PRPF31 pre-mRNA processing factor 31 [Source:HGNC Symbol;Acc:HGNC:15446]
706 PRPF4 pre-mRNA processing factor 4 [Source:HGNC Symbol;Acc:HGNC:17349]
707 PRPF40A pre-mRNA processing factor 40 homolog A [Source:HGNC Symbol;Acc:HGNC:16463]
708 PRPH peripherin [Source:HGNC Symbol;Acc:HGNC:9461]
709 PRPSAP2 phosphoribosyl pyrophosphate synthetase associated protein 2 [Source:HGNC Symbol;Acc:HGNC:9467]
710 PRRT3 proline rich transmembrane protein 3 [Source:HGNC Symbol;Acc:HGNC:26591]
711 PSCA prostate stem cell antigen [Source:HGNC Symbol;Acc:HGNC:9500]
712 PSD pleckstrin and Sec7 domain containing [Source:HGNC Symbol;Acc:HGNC:9507]
713 PSMB8 proteasome subunit beta 8 [Source:HGNC Symbol;Acc:HGNC:9545]
714 PSMD13 proteasome 26S subunit, non-ATPase 13 [Source:HGNC Symbol;Acc:HGNC:9558]
715 PSMG3 proteasome assembly chaperone 3 [Source:HGNC Symbol;Acc:HGNC:22420]
716 PTOV1 prostate tumor overexpressed 1 [Source:HGNC Symbol;Acc:HGNC:9632]
717 PTPRB protein tyrosine phosphatase, receptor type B [Source:HGNC Symbol;Acc:HGNC:9665]
718 PTPRK protein tyrosine phosphatase, receptor type K [Source:HGNC Symbol;Acc:HGNC:9674]
719 PTPRN protein tyrosine phosphatase, receptor type N [Source:HGNC Symbol;Acc:HGNC:9676]
720 PTRH1 peptidyl-tRNA hydrolase 1 homolog [Source:HGNC Symbol;Acc:HGNC:27039]
721 PVRL1 nectin cell adhesion molecule 1 [Source:HGNC Symbol;Acc:HGNC:9706]
722 PXN paxillin [Source:HGNC Symbol;Acc:HGNC:9718]
723 R3HDML R3H domain containing like [Source:HGNC Symbol;Acc:HGNC:16249]
724 RAB11FIP2 RAB11 family interacting protein 2 [Source:HGNC Symbol;Acc:HGNC:29152]
725 RAB1B RAB1B, member RAS oncogene family [Source:HGNC Symbol;Acc:HGNC:18370]
726 RAB33B RAB33B, member RAS oncogene family [Source:HGNC Symbol;Acc:HGNC:16075]
727 RAB6C RAB6C, member RAS oncogene family [Source:HGNC Symbol;Acc:HGNC:16525]

727 RAB6C RAB6C-like [Source:EntrezGene;Acc:150786]
728 RAB8A RAB8A, member RAS oncogene family [Source:HGNC Symbol;Acc:HGNC:7007]
729 RAD51L3-RFFL N/A
730 RAD54L RAD54-like (*S. cerevisiae*) [Source:HGNC Symbol;Acc:HGNC:9826]
731 RAMP2 receptor activity modifying protein 2 [Source:HGNC Symbol;Acc:HGNC:9844]
732 RAP1GAP2 RAP1 GTPase activating protein 2 [Source:HGNC Symbol;Acc:HGNC:29176]
733 RAP2C RAP2C, member of RAS oncogene family [Source:HGNC Symbol;Acc:HGNC:21165]
734 RAPGEF3 Rap guanine nucleotide exchange factor 3 [Source:HGNC Symbol;Acc:HGNC:16629]
735 RARA retinoic acid receptor alpha [Source:HGNC Symbol;Acc:HGNC:9864]
736 RARRES1 retinoic acid receptor responder 1 [Source:HGNC Symbol;Acc:HGNC:9867]
737 RASAL2 RAS protein activator like 2 [Source:HGNC Symbol;Acc:HGNC:9874]
738 RASGRF2 Ras protein specific guanine nucleotide releasing factor 2 [Source:HGNC Symbol;Acc:HGNC:9876]
739 RASGRP1 RAS guanyl releasing protein 1 [Source:HGNC Symbol;Acc:HGNC:9878]
740 RBM15 RNA binding motif protein 15 [Source:HGNC Symbol;Acc:HGNC:14959]
741 RBM8A RNA binding motif protein 8A [Source:HGNC Symbol;Acc:HGNC:9905]
742 RCAN3 RCAN family member 3 [Source:HGNC Symbol;Acc:HGNC:3042]
743 RCSD1 RCSD domain containing 1 [Source:HGNC Symbol;Acc:HGNC:28310]
744 RELL2 RELT like 2 [Source:HGNC Symbol;Acc:HGNC:26902]
745 REM1 RRAD and GEM like GTPase 1 [Source:HGNC Symbol;Acc:HGNC:15922]
746 REV3L REV3 like, DNA directed polymerase zeta catalytic subunit [Source:HGNC Symbol;Acc:HGNC:9968]
RFFL ring finger and FYVE like domain containing E3 ubiquitin protein ligase [Source:HGNC
747 Symbol;Acc:HGNC:24821]
748 RFPL1 ret finger protein like 1 [Source:HGNC Symbol;Acc:HGNC:9977]
749 RFX4 regulatory factor X4 [Source:HGNC Symbol;Acc:HGNC:9985]
750 RGL4 ral guanine nucleotide dissociation stimulator like 4 [Source:HGNC Symbol;Acc:HGNC:31911]
751 RGS7 regulator of G-protein signaling 7 [Source:HGNC Symbol;Acc:HGNC:10003]
752 RHOF ras homolog family member F, filopodia associated [Source:HGNC Symbol;Acc:HGNC:15703]
753 RHOQ ras homolog family member Q [Source:HGNC Symbol;Acc:HGNC:17736]
754 RNASE11 ribonuclease A family member 11 (inactive) [Source:HGNC Symbol;Acc:HGNC:19269]
755 RNASE12 ribonuclease A family member 12 (inactive) [Source:HGNC Symbol;Acc:HGNC:24211]

756 RNASEH1 ribonuclease H1 [Source:HGNC Symbol;Acc:HGNC:18466]
757 RNF103 ring finger protein 103 [Source:HGNC Symbol;Acc:HGNC:12859]
758 RNF123 ring finger protein 123 [Source:HGNC Symbol;Acc:HGNC:21148]
759 RNF157 ring finger protein 157 [Source:HGNC Symbol;Acc:HGNC:29402]
760 RNF217 ring finger protein 217 [Source:HGNC Symbol;Acc:HGNC:21487]
761 RNF219 ring finger protein 219 [Source:HGNC Symbol;Acc:HGNC:20308]
762 RNF31 ring finger protein 31 [Source:HGNC Symbol;Acc:HGNC:16031]
763 RNF43 ring finger protein 43 [Source:HGNC Symbol;Acc:HGNC:18505]
764 RNPEP arginyl aminopeptidase [Source:HGNC Symbol;Acc:HGNC:10078]
765 RORA RAR related orphan receptor A [Source:HGNC Symbol;Acc:HGNC:10258]
766 RP1-228P16.5 N/A
767 RP11-131H24.4 N/A
768 RP11-192H23.4 N/A
769 RP11-41O4.1 LOC101927481
770 RP11-47I22.3 uncharacterized LOC400221 [Source:EntrezGene;Acc:400221]
771 RP11-650K20.3 N/A
772 RPA3 replication protein A3 [Source:HGNC Symbol;Acc:HGNC:10291]
773 RPL26L1 ribosomal protein L26 like 1 [Source:HGNC Symbol;Acc:HGNC:17050]
774 RPL38 ribosomal protein L38 [Source:HGNC Symbol;Acc:HGNC:10349]
775 RPL6 ribosomal protein L6 [Source:HGNC Symbol;Acc:HGNC:10362]
776 RPS8 ribosomal protein S8 [Source:HGNC Symbol;Acc:HGNC:10441]
777 RPTOR regulatory associated protein of MTOR complex 1 [Source:HGNC Symbol;Acc:HGNC:30287]
778 RSPH1 radial spoke head 1 homolog [Source:HGNC Symbol;Acc:HGNC:12371]
779 RSRC1 arginine and serine rich coiled-coil 1 [Source:HGNC Symbol;Acc:HGNC:24152]
780 RTP1 receptor transporter protein 1 [Source:HGNC Symbol;Acc:HGNC:28580]
781 RUNDC3A RUN domain containing 3A [Source:HGNC Symbol;Acc:HGNC:16984]
782 RUSC1 RUN and SH3 domain containing 1 [Source:HGNC Symbol;Acc:HGNC:17153]
783 RUVBL1 RuvB like AAA ATPase 1 [Source:HGNC Symbol;Acc:HGNC:10474]
784 S100A1 S100 calcium binding protein A1 [Source:HGNC Symbol;Acc:HGNC:10486]
785 SARM1 sterile alpha and TIR motif containing 1 [Source:HGNC Symbol;Acc:HGNC:17074]

786 SATB2 SATB homeobox 2 [Source:HGNC Symbol;Acc:HGNC:21637]
787 SBF2 SET binding factor 2 [Source:HGNC Symbol;Acc:HGNC:2135]
788 SCARA5 scavenger receptor class A member 5 [Source:HGNC Symbol;Acc:HGNC:28701]
789 SCEL sciellin [Source:HGNC Symbol;Acc:HGNC:10573]
790 SCIMP SLP adaptor and CSK interacting membrane protein [Source:HGNC Symbol;Acc:HGNC:33504]
791 SCN1A sodium voltage-gated channel alpha subunit 1 [Source:HGNC Symbol;Acc:HGNC:10585]
792 SCN9A sodium voltage-gated channel alpha subunit 9 [Source:HGNC Symbol;Acc:HGNC:10597]
793 SCUBE1 signal peptide, CUB domain and EGF like domain containing 1 [Source:HGNC Symbol;Acc:HGNC:13441]
794 SCYL3 SCY1 like pseudokinase 3 [Source:HGNC Symbol;Acc:HGNC:19285]
795 SDPR serum deprivation response [Source:HGNC Symbol;Acc:HGNC:10690]
796 SEC14L4 SEC14 like lipid binding 4 [Source:HGNC Symbol;Acc:HGNC:20627]
797 SEC24B SEC24 homolog B, COPII coat complex component [Source:HGNC Symbol;Acc:HGNC:10704]
798 SEC63 SEC63 homolog, protein translocation regulator [Source:HGNC Symbol;Acc:HGNC:21082]
799 SELO selenoprotein O [Source:HGNC Symbol;Acc:HGNC:30395]
800 SEMA6A semaphorin 6A [Source:HGNC Symbol;Acc:HGNC:10738]
801 SEPN1 selenoprotein N [Source:HGNC Symbol;Acc:HGNC:15999]
802 SEPT2 septin 2 [Source:HGNC Symbol;Acc:HGNC:7729]
803 SEPT3 septin 3 [Source:HGNC Symbol;Acc:HGNC:10750]
804 SERHL2 serine hydrolase-like 2 [Source:HGNC Symbol;Acc:HGNC:29446]
805 SERPINA9 serpin family A member 9 [Source:HGNC Symbol;Acc:HGNC:15995]
806 SESN3 sestrin 3 [Source:HGNC Symbol;Acc:HGNC:23060]
807 SFTPD surfactant protein D [Source:HGNC Symbol;Acc:HGNC:10803]
808 SGK494 uncharacterized serine/threonine-protein kinase SgK494 [Source:EntrezGene;Acc:124923]
809 SGMS1 sphingomyelin synthase 1 [Source:HGNC Symbol;Acc:HGNC:29799]
810 SGMS2 sphingomyelin synthase 2 [Source:HGNC Symbol;Acc:HGNC:28395]
811 SH3BP1 SH3 domain binding protein 1 [Source:HGNC Symbol;Acc:HGNC:10824]
812 SHF Src homology 2 domain containing F [Source:HGNC Symbol;Acc:HGNC:25116]
813 SHISA9 shisa family member 9 [Source:HGNC Symbol;Acc:HGNC:37231]
814 SHPRH SNF2 histone linker PHD RING helicase [Source:HGNC Symbol;Acc:HGNC:19336]
815 SKOR1 SKI family transcriptional corepressor 1 [Source:HGNC Symbol;Acc:HGNC:21326]

816 SLC12A5 solute carrier family 12 member 5 [Source:HGNC Symbol;Acc:HGNC:13818]
817 SLC16A1 solute carrier family 16 member 1 [Source:HGNC Symbol;Acc:HGNC:10922]
818 SLC16A10 solute carrier family 16 member 10 [Source:HGNC Symbol;Acc:HGNC:17027]
819 SLC16A12 solute carrier family 16 member 12 [Source:HGNC Symbol;Acc:HGNC:23094]
820 SLC16A4 solute carrier family 16 member 4 [Source:HGNC Symbol;Acc:HGNC:10925]
821 SLC16A6 solute carrier family 16 member 6 [Source:HGNC Symbol;Acc:HGNC:10927]
822 SLC17A6 solute carrier family 17 member 6 [Source:HGNC Symbol;Acc:HGNC:16703]
823 SLC18A2 solute carrier family 18 member A2 [Source:HGNC Symbol;Acc:HGNC:10935]
824 SLC1A2 solute carrier family 1 member 2 [Source:HGNC Symbol;Acc:HGNC:10940]
825 SLC1A5 solute carrier family 1 member 5 [Source:HGNC Symbol;Acc:HGNC:10943]
826 SLC1A7 solute carrier family 1 member 7 [Source:HGNC Symbol;Acc:HGNC:10945]
827 SLC20A2 solute carrier family 20 member 2 [Source:HGNC Symbol;Acc:HGNC:10947]
828 SLC22A4 solute carrier family 22 member 4 [Source:HGNC Symbol;Acc:HGNC:10968]
829 SLC22A5 solute carrier family 22 member 5 [Source:HGNC Symbol;Acc:HGNC:10969]
830 SLC24A3 solute carrier family 24 member 3 [Source:HGNC Symbol;Acc:HGNC:10977]
831 SLC25A24 solute carrier family 25 member 24 [Source:HGNC Symbol;Acc:HGNC:20662]
832 SLC25A29 solute carrier family 25 member 29 [Source:HGNC Symbol;Acc:HGNC:20116]
833 SLC28A2 solute carrier family 28 member 2 [Source:HGNC Symbol;Acc:HGNC:11002]
834 SLC35A4 solute carrier family 35 member A4 [Source:HGNC Symbol;Acc:HGNC:20753]
835 SLC46A1 solute carrier family 46 member 1 [Source:HGNC Symbol;Acc:HGNC:30521]
836 SLC4A9 solute carrier family 4 member 9 [Source:HGNC Symbol;Acc:HGNC:11035]
837 SLC5A10 solute carrier family 5 member 10 [Source:HGNC Symbol;Acc:HGNC:23155]
838 SLC5A9 solute carrier family 5 member 9 [Source:HGNC Symbol;Acc:HGNC:22146]
839 SLC6A6 solute carrier family 6 member 6 [Source:HGNC Symbol;Acc:HGNC:11052]
840 SLC7A11 solute carrier family 7 member 11 [Source:HGNC Symbol;Acc:HGNC:11059]
841 SLC7A14 solute carrier family 7 member 14 [Source:HGNC Symbol;Acc:HGNC:29326]
842 SLIT3 slit guidance ligand 3 [Source:HGNC Symbol;Acc:HGNC:11087]
843 SLTM SAFB like transcription modulator [Source:HGNC Symbol;Acc:HGNC:20709]
SMARCAL1 SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily a like 1
844 [Source:HGNC Symbol;Acc:HGNC:11102]

SMARCD3	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily d, member 3
845	[Source:HGNC Symbol;Acc:HGNC:11108]
846 SMIM2	small integral membrane protein 2 [Source:HGNC Symbol;Acc:HGNC:28776]
847 SMIM22	small integral membrane protein 22 [Source:HGNC Symbol;Acc:HGNC:48329]
848 SMPDL3B	sphingomyelin phosphodiesterase acid like 3B [Source:HGNC Symbol;Acc:HGNC:21416]
849 SMTN	smoothelin [Source:HGNC Symbol;Acc:HGNC:11126]
850 SMURF1	SMAD specific E3 ubiquitin protein ligase 1 [Source:HGNC Symbol;Acc:HGNC:16807]
851 SNAI3	snail family transcriptional repressor 3 [Source:HGNC Symbol;Acc:HGNC:18411]
852 SNCA	synuclein alpha [Source:HGNC Symbol;Acc:HGNC:11138]
853 SNX20	sorting nexin 20 [Source:HGNC Symbol;Acc:HGNC:30390]
854 SP140	SP140 nuclear body protein [Source:HGNC Symbol;Acc:HGNC:17133]
855 SPAG5	sperm associated antigen 5 [Source:HGNC Symbol;Acc:HGNC:13452]
856 SPARC	secreted protein acidic and cysteine rich [Source:HGNC Symbol;Acc:HGNC:11219]
857 SPATA21	spermatogenesis associated 21 [Source:HGNC Symbol;Acc:HGNC:28026]
858 SPEG	SPEG complex locus [Source:HGNC Symbol;Acc:HGNC:16901]
859 SPRY4	SPRY domain containing 4 [Source:HGNC Symbol;Acc:HGNC:27468]
860 SPTY2D1	SPT2 chromatin protein domain containing 1 [Source:HGNC Symbol;Acc:HGNC:26818]
861 SREBF2	sterol regulatory element binding transcription factor 2 [Source:HGNC Symbol;Acc:HGNC:11290]
862 SRPK1	SRSF protein kinase 1 [Source:HGNC Symbol;Acc:HGNC:11305]
863 SRPX	sushi repeat containing protein, X-linked [Source:HGNC Symbol;Acc:HGNC:11309]
864 SRRM2	serine/arginine repetitive matrix 2 [Source:HGNC Symbol;Acc:HGNC:16639]
865 SSBP1	single stranded DNA binding protein 1 [Source:HGNC Symbol;Acc:HGNC:11317]
866 SSR4	signal sequence receptor subunit 4 [Source:HGNC Symbol;Acc:HGNC:11326]
867 ST7	suppression of tumorigenicity 7 [Source:HGNC Symbol;Acc:HGNC:11351]
868 ST7-OT4	ST7 overlapping transcript 4 [Source:HGNC Symbol;Acc:HGNC:18835]
869 STAG3	stromal antigen 3 [Source:HGNC Symbol;Acc:HGNC:11356]
870 STAM	signal transducing adaptor molecule [Source:HGNC Symbol;Acc:HGNC:11357]
871 STAR	steroidogenic acute regulatory protein [Source:HGNC Symbol;Acc:HGNC:11359]
872 STEAP3	STEAP3 metalloreductase [Source:HGNC Symbol;Acc:HGNC:24592]
873 STEAP4	STEAP4 metalloreductase [Source:HGNC Symbol;Acc:HGNC:21923]

874 STRA6 stimulated by retinoic acid 6 [Source:HGNC Symbol;Acc:HGNC:30650]
875 STX18 syntaxin 18 [Source:HGNC Symbol;Acc:HGNC:15942]
876 STXBP5 syntaxin binding protein 5 [Source:HGNC Symbol;Acc:HGNC:19665]
877 SULF2 sulfatase 2 [Source:HGNC Symbol;Acc:HGNC:20392]
878 SUPT4H1 SPT4 homolog, DSIF elongation factor subunit [Source:HGNC Symbol;Acc:HGNC:11467]
879 SUPT6H SPT6 homolog, histone chaperone [Source:HGNC Symbol;Acc:HGNC:11470]
880 SURF2 surfait 2 [Source:HGNC Symbol;Acc:HGNC:11475]
881 SUV39H1 suppressor of variegation 3-9 homolog 1 [Source:HGNC Symbol;Acc:HGNC:11479]
882 SYMPK symplekin [Source:HGNC Symbol;Acc:HGNC:22935]
883 SYNM synemin [Source:HGNC Symbol;Acc:HGNC:24466]
884 SYP synaptophysin [Source:HGNC Symbol;Acc:HGNC:11506]
885 SYS1 SYS1, golgi trafficking protein [Source:HGNC Symbol;Acc:HGNC:16162]
886 SYVN1 synoviolin 1 [Source:HGNC Symbol;Acc:HGNC:20738]
887 SZRD1 SUZ RNA binding domain containing 1 [Source:HGNC Symbol;Acc:HGNC:30232]
888 TAC4 tachykinin 4 (hemokinin) [Source:HGNC Symbol;Acc:HGNC:16641]
889 TAF1L TATA-box binding protein associated factor 1 like [Source:HGNC Symbol;Acc:HGNC:18056]
890 TAF6L TATA-box binding protein associated factor 6 like [Source:HGNC Symbol;Acc:HGNC:17305]
891 TAP1 transporter 1, ATP binding cassette subfamily B member [Source:HGNC Symbol;Acc:HGNC:43]
892 TBC1D14 TBC1 domain family member 14 [Source:HGNC Symbol;Acc:HGNC:29246]
893 TBX2 T-box 2 [Source:HGNC Symbol;Acc:HGNC:11597]
894 TCEB2 transcription elongation factor B subunit 2 [Source:HGNC Symbol;Acc:HGNC:11619]
895 TCF21 transcription factor 21 [Source:HGNC Symbol;Acc:HGNC:11632]
896 TCL1A T-cell leukemia/lymphoma 1A [Source:HGNC Symbol;Acc:HGNC:11648]
897 TEFM transcription elongation factor, mitochondrial [Source:HGNC Symbol;Acc:HGNC:26223]
898 TEX261 testis expressed 261 [Source:HGNC Symbol;Acc:HGNC:30712]
899 TGFB3 transforming growth factor beta 3 [Source:HGNC Symbol;Acc:HGNC:11769]
900 TGFBR3L transforming growth factor beta receptor 3 like [Source:HGNC Symbol;Acc:HGNC:44152]
901 THAP7 THAP domain containing 7 [Source:HGNC Symbol;Acc:HGNC:23190]
902 THAP9 THAP domain containing 9 [Source:HGNC Symbol;Acc:HGNC:23192]
903 THBS3 thrombospondin 3 [Source:HGNC Symbol;Acc:HGNC:11787]

904 THBS4 thrombospondin 4 [Source:HGNC Symbol;Acc:HGNC:11788]
905 THSD7A thrombospondin type 1 domain containing 7A [Source:HGNC Symbol;Acc:HGNC:22207]
906 THUMPD3 THUMP domain containing 3 [Source:HGNC Symbol;Acc:HGNC:24493]
907 TIAM2 T-cell lymphoma invasion and metastasis 2 [Source:HGNC Symbol;Acc:HGNC:11806]
908 TIRAP TIR domain containing adaptor protein [Source:HGNC Symbol;Acc:HGNC:17192]
909 TK2 thymidine kinase 2, mitochondrial [Source:HGNC Symbol;Acc:HGNC:11831]
910 TLN2 talin 2 [Source:HGNC Symbol;Acc:HGNC:15447]
911 TLX1 T-cell leukemia homeobox 1 [Source:HGNC Symbol;Acc:HGNC:5056]
912 TM4SF1 transmembrane 4 L six family member 1 [Source:HGNC Symbol;Acc:HGNC:11853]
913 TM4SF19 transmembrane 4 L six family member 19 [Source:HGNC Symbol;Acc:HGNC:25167]
914 TMC5 transmembrane channel like 5 [Source:HGNC Symbol;Acc:HGNC:22999]
915 TMED2 transmembrane p24 trafficking protein 2 [Source:HGNC Symbol;Acc:HGNC:16996]
916 TMEM11 transmembrane protein 11 [Source:HGNC Symbol;Acc:HGNC:16823]
917 TMEM132D transmembrane protein 132D [Source:HGNC Symbol;Acc:HGNC:29411]
918 TMEM138 transmembrane protein 138 [Source:HGNC Symbol;Acc:HGNC:26944]
919 TMEM139 transmembrane protein 139 [Source:HGNC Symbol;Acc:HGNC:22058]
920 TMEM147 transmembrane protein 147 [Source:HGNC Symbol;Acc:HGNC:30414]
921 TMEM167B transmembrane protein 167B [Source:HGNC Symbol;Acc:HGNC:30187]
922 TMEM18 transmembrane protein 18 [Source:HGNC Symbol;Acc:HGNC:25257]
923 TMEM186 transmembrane protein 186 [Source:HGNC Symbol;Acc:HGNC:24530]
924 TMEM200C transmembrane protein 200C [Source:HGNC Symbol;Acc:HGNC:37208]
925 TMEM202 transmembrane protein 202 [Source:HGNC Symbol;Acc:HGNC:33733]
926 TMEM220 transmembrane protein 220 [Source:HGNC Symbol;Acc:HGNC:33757]
927 TMEM229A transmembrane protein 229A [Source:HGNC Symbol;Acc:HGNC:37279]
928 TMEM246 transmembrane protein 246 [Source:HGNC Symbol;Acc:HGNC:28180]
929 TMEM25 transmembrane protein 25 [Source:HGNC Symbol;Acc:HGNC:25890]
930 TMEM254 transmembrane protein 254 [Source:HGNC Symbol;Acc:HGNC:25804]
931 TMEM260 transmembrane protein 260 [Source:HGNC Symbol;Acc:HGNC:20185]
932 TMEM30B transmembrane protein 30B [Source:HGNC Symbol;Acc:HGNC:27254]
933 TMEM53 transmembrane protein 53 [Source:HGNC Symbol;Acc:HGNC:26186]

934 TMEM54 transmembrane protein 54 [Source:HGNC Symbol;Acc:HGNC:24143]
935 TMEM69 transmembrane protein 69 [Source:HGNC Symbol;Acc:HGNC:28035]
936 TMEM87A transmembrane protein 87A [Source:HGNC Symbol;Acc:HGNC:24522]
937 TMEM8B transmembrane protein 8B [Source:HGNC Symbol;Acc:HGNC:21427]
938 TMEM91 transmembrane protein 91 [Source:HGNC Symbol;Acc:HGNC:32393]
939 TMSB10 thymosin beta 10 [Source:HGNC Symbol;Acc:HGNC:11879]
940 TMSB15B thymosin beta 15B [Source:HGNC Symbol;Acc:HGNC:28612]
941 TNFAIP3 TNF alpha induced protein 3 [Source:HGNC Symbol;Acc:HGNC:11896]
942 TNFRSF14 TNF receptor superfamily member 14 [Source:HGNC Symbol;Acc:HGNC:11912]
943 TNK2 tyrosine kinase non receptor 2 [Source:HGNC Symbol;Acc:HGNC:19297]
944 TNKS tankyrase [Source:HGNC Symbol;Acc:HGNC:11941]
945 TNPO1 transportin 1 [Source:HGNC Symbol;Acc:HGNC:6401]
946 TNR tenascin R [Source:HGNC Symbol;Acc:HGNC:11953]
947 TOMM20L translocase of outer mitochondrial membrane 20 like [Source:HGNC Symbol;Acc:HGNC:33752]
948 TOP1 topoisomerase (DNA) I [Source:HGNC Symbol;Acc:HGNC:11986]
949 TOR2A torsin family 2 member A [Source:HGNC Symbol;Acc:HGNC:11996]
950 TPBGL trophoblast glycoprotein-like [Source:HGNC Symbol;Acc:HGNC:44159]
951 TPGS1 tubulin polyglutamylase complex subunit 1 [Source:HGNC Symbol;Acc:HGNC:25058]
952 TPM1 tropomyosin 1 (alpha) [Source:HGNC Symbol;Acc:HGNC:12010]
953 TPP1 tripeptidyl peptidase 1 [Source:HGNC Symbol;Acc:HGNC:2073]
954 TPRG1 tumor protein p63 regulated 1 [Source:HGNC Symbol;Acc:HGNC:24759]
955 TRAF3IP2 TRAF3 interacting protein 2 [Source:HGNC Symbol;Acc:HGNC:1343]
956 TREH trehalase [Source:HGNC Symbol;Acc:HGNC:12266]
957 TRHDE thyrotropin releasing hormone degrading enzyme [Source:HGNC Symbol;Acc:HGNC:30748]
958 TRIM31 tripartite motif containing 31 [Source:HGNC Symbol;Acc:HGNC:16289]
959 TRIM39 tripartite motif containing 39 [Source:HGNC Symbol;Acc:HGNC:10065]
960 TRIM7 tripartite motif containing 7 [Source:HGNC Symbol;Acc:HGNC:16278]
961 TRIP10 thyroid hormone receptor interactor 10 [Source:HGNC Symbol;Acc:HGNC:12304]
962 TRMT61B tRNA methyltransferase 61B [Source:HGNC Symbol;Acc:HGNC:26070]
963 TRNAU1AP tRNA selenocysteine 1 associated protein 1 [Source:HGNC Symbol;Acc:HGNC:30813]

964 TROAP trophinin associated protein [Source:HGNC Symbol;Acc:HGNC:12327]
TRPM8 transient receptor potential cation channel subfamily M member 8 [Source:HGNC
965 Symbol;Acc:HGNC:17961]
TRPV6 transient receptor potential cation channel subfamily V member 6 [Source:HGNC
966 Symbol;Acc:HGNC:14006]
967 TTC16 tetratricopeptide repeat domain 16 [Source:HGNC Symbol;Acc:HGNC:26536]
968 TTC23L tetratricopeptide repeat domain 23 like [Source:HGNC Symbol;Acc:HGNC:26355]
969 TTC28 tetratricopeptide repeat domain 28 [Source:HGNC Symbol;Acc:HGNC:29179]
970 TTC36 tetratricopeptide repeat domain 36 [Source:HGNC Symbol;Acc:HGNC:33708]
971 TTC39A tetratricopeptide repeat domain 39A [Source:HGNC Symbol;Acc:HGNC:18657]
972 TTLL10 tubulin tyrosine ligase like 10 [Source:HGNC Symbol;Acc:HGNC:26693]
973 TTN titin [Source:HGNC Symbol;Acc:HGNC:12403]
974 UBE2D4 ubiquitin conjugating enzyme E2 D4 (putative) [Source:HGNC Symbol;Acc:HGNC:21647]
975 UBE4A ubiquitination factor E4A [Source:HGNC Symbol;Acc:HGNC:12499]
976 UBTF upstream binding transcription factor, RNA polymerase I [Source:HGNC Symbol;Acc:HGNC:12511]
977 UBXN11 UBX domain protein 11 [Source:HGNC Symbol;Acc:HGNC:30600]
978 UBXN6 UBX domain protein 6 [Source:HGNC Symbol;Acc:HGNC:14928]
979 UCHL1 ubiquitin C-terminal hydrolase L1 [Source:HGNC Symbol;Acc:HGNC:12513]
980 UCK2 uridine-cytidine kinase 2 [Source:HGNC Symbol;Acc:HGNC:12562]
981 UNC5C unc-5 netrin receptor C [Source:HGNC Symbol;Acc:HGNC:12569]
982 UPB1 beta-ureidopropionase 1 [Source:HGNC Symbol;Acc:HGNC:16297]
UQCRFS1 ubiquinol-cytochrome c reductase, Rieske iron-sulfur polypeptide 1 [Source:HGNC
983 Symbol;Acc:HGNC:12587]
984 USP3 ubiquitin specific peptidase 3 [Source:HGNC Symbol;Acc:HGNC:12626]
985 USP30 ubiquitin specific peptidase 30 [Source:HGNC Symbol;Acc:HGNC:20065]
986 USP54 ubiquitin specific peptidase 54 [Source:HGNC Symbol;Acc:HGNC:23513]
987 USP6NL USP6 N-terminal like [Source:HGNC Symbol;Acc:HGNC:16858]
988 USP8 ubiquitin specific peptidase 8 [Source:HGNC Symbol;Acc:HGNC:12631]
989 UST uronyl 2-sulfotransferase [Source:HGNC Symbol;Acc:HGNC:17223]
990 UVRAG UV radiation resistance associated [Source:HGNC Symbol;Acc:HGNC:12640]

991 VAC14 Vac14, PIKFYVE complex component [Source:HGNC Symbol;Acc:HGNC:25507]
992 VASH1 vasohibin 1 [Source:HGNC Symbol;Acc:HGNC:19964]
993 VIM vimentin [Source:HGNC Symbol;Acc:HGNC:12692]
994 VIPR1 vasoactive intestinal peptide receptor 1 [Source:HGNC Symbol;Acc:HGNC:12694]
995 VLDLR very low density lipoprotein receptor [Source:HGNC Symbol;Acc:HGNC:12698]
996 WARS tryptophanyl-tRNA synthetase [Source:HGNC Symbol;Acc:HGNC:12729]
997 WDR11 WD repeat domain 11 [Source:HGNC Symbol;Acc:HGNC:13831]
998 WDR3 WD repeat domain 3 [Source:HGNC Symbol;Acc:HGNC:12755]
999 WDR74 WD repeat domain 74 [Source:HGNC Symbol;Acc:HGNC:25529]
1000 WEE2 WEE1 homolog 2 [Source:HGNC Symbol;Acc:HGNC:19684]
1001 WIBG PYM homolog 1, exon junction complex associated factor [Source:HGNC Symbol;Acc:HGNC:30258]
1002 WLS wntless Wnt ligand secretion mediator [Source:HGNC Symbol;Acc:HGNC:30238]
1003 WNT2B Wnt family member 2B [Source:HGNC Symbol;Acc:HGNC:12781]
1004 WRN Werner syndrome RecQ like helicase [Source:HGNC Symbol;Acc:HGNC:12791]
1005 WT1 Wilms tumor 1 [Source:HGNC Symbol;Acc:HGNC:12796]
1006 XKR8 XK related 8 [Source:HGNC Symbol;Acc:HGNC:25508]
XPC XPC complex subunit, DNA damage recognition and repair factor [Source:HGNC Symbol;Acc:HGNC:12816]
1007
1008 XRCC1 X-ray repair cross complementing 1 [Source:HGNC Symbol;Acc:HGNC:12828]
1009 YEATS2 YEATS domain containing 2 [Source:HGNC Symbol;Acc:HGNC:25489]
1010 YIPF7 Yip1 domain family member 7 [Source:HGNC Symbol;Acc:HGNC:26825]
1011 YPEL1 yippee like 1 [Source:HGNC Symbol;Acc:HGNC:12845]
1012 YPEL3 yippee like 3 [Source:HGNC Symbol;Acc:HGNC:18327]
1013 YPEL4 yippee like 4 [Source:HGNC Symbol;Acc:HGNC:18328]
1014 ZBED3 zinc finger BED-type containing 3 [Source:HGNC Symbol;Acc:HGNC:20711]
1015 ZBTB21 zinc finger and BTB domain containing 21 [Source:HGNC Symbol;Acc:HGNC:13083]
1016 ZCCHC24 zinc finger CCHC-type containing 24 [Source:HGNC Symbol;Acc:HGNC:26911]
1017 ZFAT zinc finger and AT-hook domain containing [Source:HGNC Symbol;Acc:HGNC:19899]
1018 ZFHX2 zinc finger homeobox 2 [Source:HGNC Symbol;Acc:HGNC:20152]
1019 ZFYVE9 zinc finger FYVE-type containing 9 [Source:HGNC Symbol;Acc:HGNC:6775]

1020 ZHX3	zinc fingers and homeoboxes 3 [Source:HGNC Symbol;Acc:HGNC:15935]
1021 ZIM2	zinc finger imprinted 2 [Source:HGNC Symbol;Acc:HGNC:12875]
1022 ZKSCAN7	zinc finger with KRAB and SCAN domains 7 [Source:HGNC Symbol;Acc:HGNC:12955]
1023 ZNF205	zinc finger protein 205 [Source:HGNC Symbol;Acc:HGNC:12996]
1024 ZNF217	zinc finger protein 217 [Source:HGNC Symbol;Acc:HGNC:13009]
1025 ZNF22	zinc finger protein 22 [Source:HGNC Symbol;Acc:HGNC:13012]
1026 ZNF224	zinc finger protein 224 [Source:HGNC Symbol;Acc:HGNC:13017]
1027 ZNF232	zinc finger protein 232 [Source:HGNC Symbol;Acc:HGNC:13026]
1028 ZNF248	zinc finger protein 248 [Source:HGNC Symbol;Acc:HGNC:13041]
1029 ZNF32	zinc finger protein 32 [Source:HGNC Symbol;Acc:HGNC:13095]
1030 ZNF462	zinc finger protein 462 [Source:HGNC Symbol;Acc:HGNC:21684]
1031 ZNF497	zinc finger protein 497 [Source:HGNC Symbol;Acc:HGNC:23714]
1032 ZNF512B	zinc finger protein 512B [Source:HGNC Symbol;Acc:HGNC:29212]
1033 ZNF652	zinc finger protein 652 [Source:HGNC Symbol;Acc:HGNC:29147]
1034 ZNF687	zinc finger protein 687 [Source:HGNC Symbol;Acc:HGNC:29277]
1035 ZNF710	zinc finger protein 710 [Source:HGNC Symbol;Acc:HGNC:25352]
1036 ZNF75A	zinc finger protein 75a [Source:HGNC Symbol;Acc:HGNC:13146]
1037 ZNF793	zinc finger protein 793 [Source:HGNC Symbol;Acc:HGNC:33115]
1038 ZNFX1	zinc finger NFX1-type containing 1 [Source:HGNC Symbol;Acc:HGNC:29271]
1039 ZNRD1	zinc ribbon domain containing 1 [Source:HGNC Symbol;Acc:HGNC:13182]
1040 ZNRF1	zinc and ring finger 1 [Source:HGNC Symbol;Acc:HGNC:18452]
1041 ZP2	zona pellucida glycoprotein 2 [Source:HGNC Symbol;Acc:HGNC:13188]
1042 ZP4	zona pellucida glycoprotein 4 [Source:HGNC Symbol;Acc:HGNC:15770]
1043 ZRANB2	zinc finger RANBP2-type containing 2 [Source:HGNC Symbol;Acc:HGNC:13058]
1044 ZSCAN5A	zinc finger and SCAN domain containing 5A [Source:HGNC Symbol;Acc:HGNC:23710]
1045 ZYG11A	zyg-11 family member A, cell cycle regulator [Source:HGNC Symbol;Acc:HGNC:32058]