PRE CONCEPTION SCREENING
GENE PANEL DG 3.7.0 (2337 GENES)

Releasedate: 31-08-2023

Gene	TWIST X2 covered >10x	TWIST X2 covered >20x	srWGS GRCh38 covered >10x	srWGS GRCh38 covered >20x	Associated Phenotype description and OMIM disease ID
AAAS	100.0%	100.0%	100.0%	99.6%	Achalasia-addisonianism-alacrimia syndrome, 231550
AARS1	100.0%	100.0%	100.0%	99.5%	Developmental and epileptic encephalopathy 29, 616339 Charcot-Marie-Tooth disease, axonal, type 2N, 613287 ?Leukoencephalopathy, hereditary diffuse, with spheroids 2, 619661 Trichothiodystrophy 8, nonphotosensitive, 619691
AARS2	100.0%	100.0%	100.0%	99.9%	Leukoencephalopathy, progressive, with ovarian failure, 615889 Combined oxidative phosphorylation deficiency 8, 614096
AASS	100.0%	100.0%	100.0%	98.9%	Hyperlysinemia, 238700
ABAT	100.0%	100.0%	100.0%	99.5%	GABA-transaminase deficiency, 613163
ABCA1	100.0%	100.0%	100.0%	99.6%	Tangier disease, 205400 HDL deficiency, familial, 1, 604091
ABCA3	100.0%	100.0%	100.0%	99.8%	Surfactant metabolism dysfunction, pulmonary, 3, 610921
ABCA4	100.0%	100.0%	100.0%	99.7%	Retinal dystrophy, early-onset severe, 248200 Retinitis pigmentosa 19, 601718 Cone-rod dystrophy 3, 604116 Fundus flavimaculatus, 248200 Stargardt disease 1, 248200
ABCB11	100.0%	99.7%	100.0%	99.3%	Cholestasis, benign recurrent intrahepatic, 2, 605479 Cholestasis, progressive familial intrahepatic 2, 601847
ABCB4	100.0%	100.0%	100.0%	99.4%	Gallbladder disease 1, 600803 Cholestasis, intrahepatic, of pregnancy, 3, 614972 Cholestasis, progressive familial intrahepatic 3, 602347
ABCC2	100.0%	100.0%	100.0%	99.4%	Dubin-Johnson syndrome, 237500

ABCC6	100.0%	100.0%	100.0%	99.7%	Pseudoxanthoma elasticum, 264800 Arterial calcification, generalized, of infancy, 2, 614473 Pseudoxanthoma elasticum, forme fruste, 177850
ABCC8	100.0%	100.0%	100.0%	99.7%	Diabetes mellitus, permanent neonatal 3, w/wo neurologic features, 618857 Diabetes mellitus, transient neonatal 2, 610374 Diabetes mellitus, noninsulin-dependent, 125853 Hypoglycemia of infancy, leucine-sensitive, 240800 Hyperinsulinemic hypoglycemia, familial, 1, 256450
ABCD4	100.0%	100.0%	100.0%	99.6%	Methylmalonic aciduria and homocystinuria, cblJ type, 614857
ABCG5	100.0%	100.0%	100.0%	99.4%	Sitosterolemia 2, 618666
ABCG8	100.0%	100.0%	100.0%	99.6%	Sitosterolemia 1, 210250
ABHD12	100.0%	100.0%	100.0%	99.2%	Polyneuropathy, hearing loss, ataxia, retinitis pigmentosa, and cataract, 612674
ABHD16A	100.0%	100.0%	100.0%	99.5%	Spastic paraplegia 86, autosomal recessive, 619735
ABHD5	100.0%	100.0%	100.0%	99.7%	Chanarin-Dorfman syndrome, 275630
ACACA	100.0%	100.0%	100.0%	99.6%	No OMIM disease ID
ACAD8	100.0%	100.0%	100.0%	99.4%	Isobutyryl-CoA dehydrogenase deficiency, 611283
ACAD9	100.0%	100.0%	100.0%	99.7%	Mitochondrial complex I deficiency, nuclear type 20, 611126
ACADM	100.0%	100.0%	99.9%	98.1%	Acyl-CoA dehydrogenase, medium chain, deficiency of, 201450
ACADS	100.0%	100.0%	100.0%	100.0%	Acyl-CoA dehydrogenase, short-chain, deficiency of, 201470
ACADSB	100.0%	100.0%	100.0%	99.5%	2-methylbutyrylglycinuria, 610006
ACADVL	100.0%	100.0%	99.9%	98.3%	VLCAD deficiency, 201475
ACAN	99.1%	99.0%	97.7%	94.2%	?Spondyloepiphyseal dysplasia, Kimberley type, 608361 Short stature and advanced bone age, w/wo early-onset osteoarthritis and/or osteochondritis dissecans, 165800 Spondyloepimetaphyseal dysplasia, aggrecan type, 612813
ACAT1	100.0%	100.0%	99.8%	97.1%	Alpha-methylacetoacetic aciduria, 203750
ACE	100.0%	100.0%	99.9%	99.2%	Renal tubular dysgenesis, 267430
ACER3	100.0%	100.0%	100.0%	99.4%	?Leukodystrophy, progressive, early childhood-onset, 617762
ACO2	100.0%	100.0%	100.0%	99.7%	Optic atrophy 9, 616289 Infantile cerebellar-retinal degeneration, 614559
ACOX1	100.0%	100.0%	100.0%	99.3%	Mitchell syndrome, 618960 Peroxisomal acyl-CoA oxidase deficiency, 264470
ACOX2	100.0%	100.0%	100.0%	99.3%	Bile acid synthesis defect, congenital, 6, 617308
ACP5	100.0%	100.0%	100.0%	99.9%	Spondyloenchondrodysplasia with immune dysregulation, 607944
ACSF3	100.0%	100.0%	100.0%	99.5%	Combined malonic and methylmalonic aciduria, 614265

ACTA1	100.0%	100.0%	100.0%	99.0%	Congenital myopathy 2B, severe infantile, autosomal recessive, 620265 ?Myopathy, scapulohumeroperoneal, 616852 Congenital myopathy 2C, severe infantile, autosomal dominant, 620278 Congenital myopathy 2A, typical, autosomal dominant, 161800
ACTL6B	100.0%	100.0%	100.0%	99.7%	Developmental and epileptic encephalopathy 76, 618468 Intellectual developmental disorder with severe speech and ambulation defects, 618470
ACY1	100.0%	100.0%	100.0%	99.8%	Aminoacylase 1 deficiency, 609924
ADA	100.0%	100.0%	100.0%	99.8%	Adenosine deaminase deficiency, partial, 102700 Severe combined immunodeficiency due to ADA deficiency, 102700
ADA2	100.0%	100.0%	100.0%	99.6%	Sneddon syndrome, 182410 Vasculitis, autoinflammation, immunodeficiency, and hematologic defects syndrome, 615688
ADAM17	100.0%	100.0%	100.0%	99.3%	?Inflammatory skin and bowel disease, neonatal, 1, 614328
ADAM22	100.0%	100.0%	100.0%	99.2%	Developmental and epileptic encephalopathy 61, 617933
ADAM9	100.0%	100.0%	100.0%	99.4%	Cone-rod dystrophy 9, 612775
ADAMTS10	100.0%	100.0%	100.0%	99.8%	Weill-Marchesani syndrome 1, recessive, 277600
ADAMTS13	100.0%	100.0%	100.0%	99.4%	Thrombotic thrombocytopenic purpura, hereditary, 274150
ADAMTS17	100.0%	100.0%	100.0%	99.4%	Weill-Marchesani 4 syndrome, recessive, 613195
ADAMTS18	100.0%	100.0%	100.0%	99.4%	Microcornea, myopic chorioretinal atrophy, and telecanthus, 615458
ADAMTS2	97.9%	97.9%	100.0%	99.6%	Ehlers-Danlos syndrome, dermatosparaxis type, 225410
ADAMTS3	99.3%	98.7%	100.0%	99.5%	Hennekam lymphangiectasia-lymphedema syndrome 3, 618154
ADAMTSL2	100.0%	99.7%	100.0%	99.9%	Geleophysic dysplasia 1, 231050
ADAMTSL4	100.0%	100.0%	100.0%	99.6%	Ectopia lentis et pupillae, 225200 Ectopia lentis, isolated, autosomal recessive, 225100
ADAR	100.0%	100.0%	100.0%	99.1%	Dyschromatosis symmetrica hereditaria, 127400 Aicardi-Goutieres syndrome 6, 615010
ADARB1	95.0%	94.8%	100.0%	99.8%	Neurodevelopmental disorder with hypotonia, microcephaly, and seizures, 618862
ADAT3	100.0%	100.0%	100.0%	100.0%	Neurodevelopmental disorder with brain abnormalities, poor growth, and dysmorphic facies, 615286
ADCY6	100.0%	100.0%	100.0%	99.8%	Lethal congenital contracture syndrome 8, 616287
ADD3	100.0%	100.0%	100.0%	99.3%	Cerebral palsy, spastic quadriplegic, 3, 617008
ADGRG1	100.0%	100.0%	100.0%	99.8%	Polymicrogyria, bilateral frontoparietal, 606854 Polymicrogyria, bilateral perisylvian, 615752
ADGRG6	100.0%	99.8%	100.0%	99.2%	Lethal congenital contracture syndrome 9, 616503
ADGRV1	100.0%	100.0%	100.0%	99.3%	Usher syndrome, type 2C, 605472 Usher syndrome, type 2C, GPR98/PDZD7 digenic, 605472 ?Febrile seizures, familial, 4, 604352

ADK	90.9%	90.9%	100.0%	99.5%	Hypermethioninemia due to adenosine kinase deficiency, 614300
ADPRS	100.0%	100.0%	100.0%	99.8%	Neurodegeneration, childhood-onset, stress-induced, with variable ataxia and seizures, 618170
ADSL	100.0%	100.0%	100.0%	99.4%	Adenylosuccinase deficiency, 103050
ADSS1	100.0%	100.0%	100.0%	99.6%	Myopathy, distal, 5, 617030
AEBP1	100.0%	100.0%	100.0%	99.6%	Ehlers-Danlos syndrome, classic-like, 2, 618000
AFG3L2	100.0%	100.0%	100.0%	99.1%	Spastic ataxia 5, autosomal recessive, 614487 Optic atrophy 12, 618977 Spinocerebellar ataxia 28, 610246
AGA	100.0%	100.0%	100.0%	99.6%	Aspartylglucosaminuria, 208400
AGBL5	100.0%	100.0%	100.0%	99.7%	Retinitis pigmentosa 75, 617023
AGK	91.7%	91.7%	100.0%	99.6%	Cataract 38, autosomal recessive, 614691 Sengers syndrome, 212350
AGL	100.0%	100.0%	100.0%	99.2%	Glycogen storage disease IIIa, 232400 Glycogen storage disease IIIb, 232400
AGPAT2	100.0%	100.0%	100.0%	99.9%	Lipodystrophy, congenital generalized, type 1, 608594
AGPS	100.0%	100.0%	100.0%	99.0%	Rhizomelic chondrodysplasia punctata, type 3, 600121
AGRN	100.0%	100.0%	100.0%	99.8%	Myasthenic syndrome, congenital, 8, with pre- and postsynaptic defects, 615120
AGT	100.0%	100.0%	100.0%	99.6%	Renal tubular dysgenesis, 267430
AGTPBP1	100.0%	100.0%	100.0%	99.1%	Neurodegeneration, childhood-onset, with cerebellar atrophy, 618276
AGTR1	100.0%	100.0%	100.0%	99.2%	Renal tubular dysgenesis, 267430
AGXT	100.0%	100.0%	100.0%	99.9%	Hyperoxaluria, primary, type 1, 259900
AHCY	100.0%	100.0%	100.0%	99.9%	Hypermethioninemia with deficiency of S-adenosylhomocysteine hydrolase, 613752
AHI1	100.0%	100.0%	100.0%	99.1%	Joubert syndrome 3, 608629
AHR	100.0%	100.0%	100.0%	99.5%	?Retinitis pigmentosa 85, 618345
AICDA	100.0%	100.0%	100.0%	99.2%	Immunodeficiency with hyper-IgM, type 2, 605258
AIMP1	100.0%	100.0%	100.0%	98.8%	Leukodystrophy, hypomyelinating, 3, 260600
AIMP2	100.0%	100.0%	100.0%	99.7%	Leukodystrophy, hypomyelinating, 17, 618006
AIPL1	100.0%	100.0%	100.0%	100.0%	Leber congenital amaurosis 4, 604393 Retinitis pigmentosa, juvenile, 604393 Cone-rod dystrophy, 604393
AIRE	100.0%	100.0%	100.0%	99.9%	Autoimmune polyendocrinopathy syndrome , type I, w/wo reversible metaphyseal dysplasia, 240300
AK1	100.0%	100.0%	100.0%	99.9%	Hemolytic anemia due to adenylate kinase deficiency, 612631
AK2	100.0%	100.0%	100.0%	99.3%	Reticular dysgenesis, 267500
AKR1D1	100.0%	100.0%	100.0%	99.5%	Bile acid synthesis defect, congenital, 2, 235555
ALAD	100.0%	100.0%	100.0%	99.8%	Porphyria, acute hepatic, 612740

ALB	100.0%	100.0%	100.0%	98.8%	Analbuminemia, 616000
ALDH18A1	100.0%	100.0%	100.0%	99.6%	Spastic paraplegia 9A, autosomal dominant, 601162 Cutis laxa, autosomal recessive, type IIIA, 219150 Spastic paraplegia 9B, autosomal recessive, 616586 Cutis laxa, autosomal dominant 3, 616603
ALDH1A3	100.0%	100.0%	100.0%	99.4%	Microphthalmia, isolated 8, 615113
ALDH3A2	93.5%	93.5%	100.0%	99.5%	Sjogren-Larsson syndrome, 270200
ALDH4A1	100.0%	100.0%	100.0%	99.5%	Hyperprolinemia, type II, 239510
ALDH5A1	100.0%	100.0%	100.0%	99.6%	Succinic semialdehyde dehydrogenase deficiency, 271980
ALDH6A1	100.0%	100.0%	100.0%	98.5%	Methylmalonate semialdehyde dehydrogenase deficiency, 614105
ALDH7A1	100.0%	100.0%	100.0%	99.6%	Epilepsy, pyridoxine-dependent, 266100
ALDOA	100.0%	100.0%	100.0%	99.9%	Glycogen storage disease XII, 611881
ALDOB	100.0%	100.0%	100.0%	99.7%	Fructose intolerance, hereditary, 229600
ALG1	100.0%	100.0%	100.0%	99.9%	Congenital disorder of glycosylation, type Ik, 608540
ALG11	96.0%	96.0%	100.0%	99.5%	Congenital disorder of glycosylation, type Ip, 613661
ALG12	100.0%	100.0%	100.0%	99.9%	Congenital disorder of glycosylation, type Ig, 607143
ALG14	100.0%	100.0%	100.0%	99.0%	Intellectual developmental disorder with epilepsy, behavioral abnormalities, and coarse facies, 619031 Myopathy, epilepsy, and progressive cerebral atrophy, 619036 ?Myasthenic syndrome, congenital, 15, without tubular aggregates, 616227
ALG2	100.0%	100.0%	100.0%	99.8%	Congenital disorder of glycosylation, type Ii, 607906 Myasthenic syndrome, congenital, 14, with tubular aggregates, 616228
ALG3	100.0%	100.0%	100.0%	99.7%	Congenital disorder of glycosylation, type Id, 601110
ALG6	100.0%	100.0%	100.0%	98.8%	Congenital disorder of glycosylation, type Ic, 603147
ALG8	96.1%	96.1%	100.0%	99.1%	Congenital disorder of glycosylation, type Ih, 608104 Polycystic liver disease 3 w/wo kidney cysts, 617874
ALG9	100.0%	100.0%	100.0%	99.3%	Gillessen-Kaesbach-Nishimura syndrome, 263210 Congenital disorder of glycosylation, type Il, 608776
ALKBH8	100.0%	100.0%	100.0%	99.7%	Intellectual developmental disorder, autosomal recessive 71, 618504
ALMS1	100.0%	100.0%	100.0%	99.2%	Alstrom syndrome, 203800
ALOX12B	100.0%	100.0%	100.0%	99.9%	Ichthyosis, congenital, autosomal recessive 2, 242100
ALOXE3	100.0%	100.0%	100.0%	99.3%	Ichthyosis, congenital, autosomal recessive 3, 606545
ALPK3	100.0%	100.0%	100.0%	99.6%	Cardiomyopathy, familial hypertrophic 27, 618052

ALPL	100.0%	100.0%	100.0%	99.7%	Odontohypophosphatasia, 146300 Hypophosphatasia, infantile, 241500 Hypophosphatasia, childhood, 241510 Hypophosphatasia, adult, 146300
ALS2	100.0%	100.0%	100.0%	99.2%	Primary lateral sclerosis, juvenile, 606353 Spastic paralysis, infantile onset ascending, 607225 Amyotrophic lateral sclerosis 2, juvenile, 205100
ALX1	100.0%	100.0%	100.0%	99.0%	Frontonasal dysplasia 3, 613456
ALX3	100.0%	100.0%	100.0%	99.3%	Frontonasal dysplasia 1, 136760
ALX4	100.0%	100.0%	100.0%	99.3%	Parietal foramina 2, 609597 Frontonasal dysplasia 2, 613451
AMACR	100.0%	100.0%	100.0%	99.1%	Alpha-methylacyl-CoA racemase deficiency, 614307 Bile acid synthesis defect, congenital, 4, 214950
AMBN	100.0%	99.5%	100.0%	99.1%	Amelogenesis imperfecta, type IF, 616270
AMN	100.0%	100.0%	100.0%	100.0%	Imerslund-Grasbeck syndrome 2, 618882
AMPD1	100.0%	100.0%	100.0%	99.4%	Myopathy due to myoadenylate deaminase deficiency, 615511
AMPD2	100.0%	100.0%	100.0%	99.4%	?Spastic paraplegia 63, 615686 Pontocerebellar hypoplasia, type 9, 615809
AMT	100.0%	100.0%	100.0%	99.8%	Glycine encephalopathy 2, 620398
ANAPC1	100.0%	100.0%	100.0%	99.1%	Rothmund-Thomson syndrome, type 1, 618625
ANGPTL3	100.0%	100.0%	100.0%	99.0%	Hypobetalipoproteinemia, familial, 2, 605019
ANK1	100.0%	100.0%	100.0%	99.9%	Spherocytosis, type 1, 182900
ANK3	100.0%	99.9%	100.0%	99.2%	Intellectual developmental disorder, autosomal recessive 37, 615493
ANKH	100.0%	100.0%	100.0%	99.9%	Chondrocalcinosis 2, 118600 Craniometaphyseal dysplasia, 123000
ANKLE2	100.0%	100.0%	100.0%	98.1%	Microcephaly 16, primary, autosomal recessive, 616681
ANKS6	99.9%	99.4%	100.0%	99.5%	Nephronophthisis 16, 615382
ANO10	100.0%	100.0%	100.0%	99.6%	Spinocerebellar ataxia, autosomal recessive 10, 613728
ANO5	100.0%	100.0%	100.0%	99.4%	Muscular dystrophy, limb-girdle, autosomal recessive 12, 611307 Miyoshi muscular dystrophy 3, 613319 Gnathodiaphyseal dysplasia, 166260
ANO6	100.0%	100.0%	100.0%	99.4%	Scott syndrome, 262890
ANTXR1	100.0%	99.8%	99.4%	94.8%	GAPO syndrome, 230740
ANTXR2	100.0%	100.0%	100.0%	99.2%	Hyaline fibromatosis syndrome, 228600
AP1B1	100.0%	100.0%	100.0%	99.7%	Keratitis-ichthyosis-deafness syndrome, autosomal recessive, 242150

AP1S1	100.0%	100.0%	100.0%	99.5%	MEDNIK syndrome, 609313
AP3B1	100.0%	100.0%	100.0%	99.7%	Hermansky-Pudlak syndrome 2, 608233
AP3B2	100.0%	100.0%	100.0%	99.6%	Developmental and epileptic encephalopathy 48, 617276
AP3D1	100.0%	100.0%	100.0%	99.7%	?Hermansky-Pudlak syndrome 10, 617050
AP4B1	100.0%	100.0%	100.0%	99.7%	Spastic paraplegia 47, autosomal recessive, 614066
AP4E1	100.0%	100.0%	100.0%	99.4%	Stuttering, familial persistent, 1, 184450 Spastic paraplegia 51, autosomal recessive, 613744
AP4M1	100.0%	100.0%	100.0%	99.7%	Spastic paraplegia 50, autosomal recessive, 612936
AP4S1	87.4%	87.4%	100.0%	99.2%	Spastic paraplegia 52, autosomal recessive, 614067
AP5Z1	100.0%	100.0%	100.0%	99.9%	Spastic paraplegia 48, autosomal recessive, 613647
APC2	100.0%	100.0%	100.0%	99.7%	Cortical dysplasia, complex, with other brain malformations 10, 618677 Intellectual developmental disorder, autosomal recessive 74, 617169
APOC2	100.0%	100.0%	100.0%	99.5%	Hyperlipoproteinemia, type Ib, 207750
APOE	100.0%	100.0%	100.0%	99.8%	Alzheimer disease 2, 104310 Sea-blue histiocyte disease, 269600 Lipoprotein glomerulopathy, 611771 Hyperlipoproteinemia, type III, 617347
APRT	100.0%	100.0%	100.0%	99.9%	Adenine phosphoribosyltransferase deficiency, 614723
APTX	100.0%	100.0%	100.0%	99.5%	Ataxia, early-onset, with oculomotor apraxia and hypoalbuminemia, 208920
AQP2	100.0%	100.0%	100.0%	99.8%	Diabetes insipidus, nephrogenic, 2, 125800
ARFGEF2	100.0%	100.0%	100.0%	99.5%	Periventricular heterotopia with microcephaly, 608097
ARG1	93.0%	93.0%	100.0%	99.7%	Argininemia, 207800
ARHGDIA	100.0%	100.0%	100.0%	100.0%	Nephrotic syndrome, type 8, 615244
ARHGEF18	100.0%	100.0%	100.0%	99.5%	Retinitis pigmentosa 78, 617433
ARHGEF2	100.0%	100.0%	100.0%	99.7%	?Neurodevelopmental disorder with midbrain and hindbrain malformations, 617523
ARL13B	100.0%	100.0%	100.0%	98.5%	Joubert syndrome 8, 612291
ARL2BP	100.0%	100.0%	100.0%	98.6%	Retinitis pigmentosa w/wo situs inversus, 615434
ARL3	100.0%	100.0%	100.0%	99.5%	Retinitis pigmentosa 83, 618173 Joubert syndrome 35, 618161
ARL6	100.0%	100.0%	100.0%	98.1%	Retinitis pigmentosa 55, 613575 Bardet-Biedl syndrome 3, 600151
ARL6IP1	100.0%	100.0%	100.0%	99.7%	?Spastic paraplegia 61, autosomal recessive, 615685
ARMC4	95.9%	95.6%	100.0%	99.1%	Ciliary dyskinesia, primary, 23, 615451
ARMC9	100.0%	100.0%	100.0%	99.6%	Joubert syndrome 30, 617622
ARNT2	100.0%	100.0%	100.0%	99.5%	?Webb-Dattani syndrome, 615926

ARPC1B	100.0%	100.0%	100.0%	99.7%	Immunodeficiency 71 with inflammatory disease and congenital thrombocytopenia, 617718
ARSA	100.0%	100.0%	100.0%	100.0%	Metachromatic leukodystrophy, 250100
ARSB	100.0%	100.0%	100.0%	99.7%	Mucopolysaccharidosis type VI (Maroteaux-Lamy), 253200
ARSG	100.0%	100.0%	100.0%	99.1%	Usher syndrome, type IV, 618144
ARV1	100.0%	100.0%	100.0%	99.3%	Developmental and epileptic encephalopathy 38, 617020
ASAH1	100.0%	100.0%	100.0%	99.3%	Spinal muscular atrophy with progressive myoclonic epilepsy, 159950 Farber lipogranulomatosis, 228000
ASCC1	86.7%	86.6%	100.0%	98.8%	Spinal muscular atrophy with congenital bone fractures 2, 616867 Barrett esophagus/esophageal adenocarcinoma, 614266
ASL	100.0%	100.0%	100.0%	99.9%	Argininosuccinic aciduria, 207900
ASNS	100.0%	100.0%	100.0%	99.4%	Asparagine synthetase deficiency, 615574
ASPA	100.0%	100.0%	100.0%	99.0%	Canavan disease, 271900
ASPH	99.9%	99.5%	100.0%	99.2%	Traboulsi syndrome, 601552
ASPM	100.0%	99.8%	100.0%	99.1%	Microcephaly 5, primary, autosomal recessive, 608716
ASS1	100.0%	100.0%	100.0%	99.9%	Citrullinemia, 215700
ATAD1	100.0%	99.7%	100.0%	98.9%	Hyperekplexia 4, 618011
ATAD3A	100.0%	100.0%	100.0%	99.1%	Harel-Yoon syndrome, 617183 Pontocerebellar hypoplasia, hypotonia, and respiratory insufficiency syndrome, neonatal lethal, 618810
ATCAY	100.0%	100.0%	100.0%	99.6%	Ataxia, cerebellar, Cayman type, 601238
ATF6	100.0%	100.0%	100.0%	99.6%	Achromatopsia 7, 616517
ATG5	100.0%	100.0%	100.0%	98.9%	?Spinocerebellar ataxia, autosomal recessive 25, 617584
ATIC	100.0%	100.0%	100.0%	99.2%	AICA-ribosiduria due to ATIC deficiency, 608688
ATM	100.0%	100.0%	100.0%	99.0%	Ataxia-telangiectasia, 208900 Lymphoma, B-cell non-Hodgkin, somatic, T-cell prolymphocytic leukemia, somatic, Lymphoma, mantle cell, somatic,
ATOH7	100.0%	100.0%	100.0%	99.8%	Persistent hyperplastic primary vitreous, autosomal recessive, 221900
ATP13A2	100.0%	100.0%	100.0%	99.8%	Spastic paraplegia 78, autosomal recessive, 617225 Kufor-Rakeb syndrome, 606693
ATP2A1	100.0%	100.0%	100.0%	99.5%	Brody myopathy, 601003
ATP5F1A	100.0%	100.0%	100.0%	99.6%	Mitochondrial complex V (ATP synthase) deficiency, nuclear type 4A, 620358 ?Combined oxidative phosphorylation deficiency 22, 616045 ?Mitochondrial complex V (ATP synthase) deficiency, nuclear type 4B, encephalopathic type, 615228

ATP5F1D	100.0%	100.0%	100.0%	99.9%	Mitochondrial complex V (ATP synthase) deficiency, 618120
ATP5F1E	100.0%	100.0%	100.0%	97.8%	Mitochondrial complex V (ATP synthase) deficiency, nuclear type 3, 614053
ATP6V0A2	100.0%	100.0%	100.0%	98.9%	Wrinkly skin syndrome, 278250 Cutis laxa, autosomal recessive, type IIA, 219200
ATP6V0A4	100.0%	100.0%	100.0%	99.1%	Distal renal tubular acidosis 3, w/wo sensorineural hearing loss, 602722
ATP6V1A	100.0%	100.0%	100.0%	99.3%	Cutis laxa, autosomal recessive, type IID, 617403 Developmental and epileptic encephalopathy 93, 618012
ATP6V1B1	100.0%	100.0%	100.0%	99.7%	Distal renal tubular acidosis 2 with progressive sensorineural hearing loss, 267300
ATP6V1E1	100.0%	100.0%	100.0%	99.1%	Cutis laxa, autosomal recessive, type IIC, 617402
ATP7B	100.0%	100.0%	100.0%	99.7%	Wilson disease, 277900
ATP8A2	100.0%	100.0%	100.0%	99.5%	?Cerebellar ataxia, impaired intellectual development, and dysequilibrium syndrome 4, 615268
ATP8B1	100.0%	100.0%	100.0%	98.7%	Cholestasis, progressive familial intrahepatic 1, 211600 Cholestasis, intrahepatic, of pregnancy, 1, 147480 Cholestasis, benign recurrent intrahepatic, 243300
ATPAF2	100.0%	100.0%	100.0%	99.4%	?Mitochondrial complex V (ATP synthase) deficiency, nuclear type 1, 604273
ATR	100.0%	100.0%	100.0%	99.2%	Seckel syndrome 1, 210600 ?Cutaneous telangiectasia and cancer syndrome, familial, 614564
AUH	100.0%	100.0%	100.0%	99.5%	3-methylglutaconic aciduria, type I, 250950
AURKC	100.0%	100.0%	100.0%	99.6%	Spermatogenic failure 5, 243060
B2M	100.0%	100.0%	100.0%	99.5%	?Amyloidosis, familial visceral, 105200 Immunodeficiency 43, 241600
B3GALNT2	92.4%	92.4%	100.0%	99.1%	Muscular dystrophy-dystroglycanopathy (congenital with brain and eye anomalies), type A, 11, 615181
B3GALT6	99.9%	98.0%	100.0%	99.8%	Ehlers-Danlos syndrome, spondylodysplastic type, 2, 615349 Spondyloepimetaphyseal dysplasia with joint laxity, type 1, w/wo fractures, 271640 Al-Gazali syndrome, 609465
B3GAT3	94.5%	93.8%	100.0%	99.7%	Multiple joint dislocations, short stature, craniofacial dysmorphism, w/wo congenital heart defects, 245600
B3GLCT	100.0%	100.0%	100.0%	99.1%	Peters-plus syndrome, 261540
B4GALNT1	100.0%	100.0%	100.0%	99.7%	Spastic paraplegia 26, autosomal recessive, 609195
B4GALT1	100.0%	100.0%	100.0%	99.6%	Combined low LDL and fibrinogen, 620364 Congenital disorder of glycosylation, type IId, 607091
B4GALT7	100.0%	100.0%	100.0%	99.7%	Ehlers-Danlos syndrome, spondylodysplastic type, 1, 130070
B4GAT1	100.0%	100.0%	100.0%	99.8%	Muscular dystrophy-dystroglycanopathy (congenital with brain and eye anomalies), type A, 13, 615287
B9D1	100.0%	100.0%	100.0%	99.8%	?Meckel syndrome 9, 614209 Joubert syndrome 27, 617120

B9D2	100.0%	100.0%	100.0%	99.8%	?Meckel syndrome 10, 614175 Joubert syndrome 34, 614175
BAAT	100.0%	100.0%	100.0%	99.4%	Bile acid conjugation defect 1, 619232
BANF1	100.0%	100.0%	100.0%	99.7%	Nestor-Guillermo progeria syndrome, 614008
BBS1	100.0%	100.0%	100.0%	99.8%	Bardet-Biedl syndrome 1, 209900
BBS10	100.0%	100.0%	100.0%	99.7%	Bardet-Biedl syndrome 10, 615987
BBS12	100.0%	100.0%	100.0%	99.6%	Bardet-Biedl syndrome 12, 615989
BBS2	100.0%	100.0%	100.0%	99.3%	Retinitis pigmentosa 74, 616562 Bardet-Biedl syndrome 2, 615981
BBS4	100.0%	100.0%	100.0%	99.5%	Bardet-Biedl syndrome 4, 615982
BBS5	100.0%	100.0%	100.0%	99.2%	Bardet-Biedl syndrome 5, 615983
BBS7	100.0%	100.0%	100.0%	99.3%	Bardet-Biedl syndrome 7, 615984
BBS9	95.8%	95.8%	100.0%	99.1%	Bardet-Biedl syndrome 9, 615986
BCAS3	100.0%	100.0%	100.0%	99.6%	Hengel-Maroofian-Schols syndrome, 619641
BCKDHA	100.0%	100.0%	100.0%	99.6%	Maple syrup urine disease, type Ia, 248600
BCKDHB	100.0%	99.8%	100.0%	99.4%	Maple syrup urine disease, type Ib, 248600
BCKDK	100.0%	100.0%	100.0%	99.8%	Branched-chain keto acid dehydrogenase kinase deficiency, 614923
BCL10	100.0%	100.0%	100.0%	99.6%	?Immunodeficiency 37, 616098 Lymphoma, MALT, somatic, 137245
BCS1L	100.0%	100.0%	100.0%	99.9%	GRACILE syndrome, 603358 Mitochondrial complex III deficiency, nuclear type 1, 124000 Bjornstad syndrome, 262000
BFSP1	100.0%	100.0%	100.0%	99.2%	Cataract 33, multiple types, 611391
BFSP2	100.0%	100.0%	100.0%	99.5%	Cataract 12, multiple types, 611597
BHLHA9	100.0%	100.0%	100.0%	99.0%	?Camptosynpolydactyly, complex, 607539 Syndactyly, mesoaxial synostotic, with phalangeal reduction, 609432
BIN1	100.0%	100.0%	100.0%	99.6%	Centronuclear myopathy 2, 255200
BLM	100.0%	100.0%	100.0%	99.2%	Bloom syndrome, 210900
BLOC1S3	100.0%	100.0%	100.0%	99.6%	Hermansky-Pudlak syndrome 8, 614077
BLOC1S6	100.0%	100.0%	100.0%	99.1%	?Hermansky-Pudlak syndrome 9, 614171
BLVRA	100.0%	99.9%	100.0%	99.7%	Hyperbiliverdinemia, 614156
BMP1	100.0%	100.0%	100.0%	99.7%	Osteogenesis imperfecta, type XIII, 614856
BMPER	100.0%	100.0%	100.0%	99.5%	Diaphanospondylodysostosis, 608022

BMPR1B	100.0%	100.0%	100.0%	99.5%	Acromesomelic dysplasia 3, 609441 Brachydactyly, type A2, 112600 Brachydactyly, type A1, D, 616849
BOLA3	100.0%	100.0%	100.0%	99.4%	Multiple mitochondrial dysfunctions syndrome 2 with hyperglycinemia, 614299
BPGM	100.0%	100.0%	100.0%	99.1%	Erythrocytosis, familial, 8, 222800
BRAT1	100.0%	100.0%	100.0%	99.9%	Neurodevelopmental disorder with cerebellar atrophy and w/wo seizures, 618056 Rigidity and multifocal seizure syndrome, lethal neonatal, 614498
BRCA1	100.0%	100.0%	100.0%	99.1%	Fanconi anemia, complementation group S, 617883
BRCA2	100.0%	100.0%	100.0%	98.6%	Fanconi anemia, complementation group D1, 605724 Wilms tumor, 194070
BRF1	100.0%	100.0%	100.0%	99.9%	Cerebellofaciodental syndrome, 616202
BRIP1	100.0%	100.0%	100.0%	99.1%	Fanconi anemia, complementation group J, 609054
BSCL2	100.0%	100.0%	100.0%	99.6%	Lipodystrophy, congenital generalized, type 2, 269700 Neuropathy, distal hereditary motor, type VC, 619112 Silver spastic paraplegia syndrome, 270685 Encephalopathy, progressive, w/wo lipodystrophy, 615924
BSND	100.0%	100.0%	100.0%	99.5%	Sensorineural deafness with mild renal dysfunction, 602522 Bartter syndrome, type 4a, 602522
BTD	94.4%	94.3%	100.0%	99.5%	Biotinidase deficiency, 253260
BUB1B	100.0%	100.0%	100.0%	99.5%	Colorectal cancer, somatic, 114500 Mosaic variegated aneuploidy syndrome 1, 257300
BVES	100.0%	100.0%	100.0%	99.2%	Muscular dystrophy, limb-girdle, autosomal recessive 25, 616812
C12orf4	100.0%	100.0%	100.0%	99.0%	Intellectual developmental disorder, autosomal recessive 66, 618221
C12orf57	100.0%	100.0%	100.0%	99.5%	Temtamy syndrome, 218340
C12orf65	100.0%	100.0%	100.0%	98.6%	Spastic paraplegia 55, autosomal recessive, 615035 Combined oxidative phosphorylation deficiency 7, 613559
C15orf41	100.0%	99.9%	100.0%	99.9%	Dyserythropoietic anemia, congenital, type Ib, 615631
C19orf12	100.0%	99.9%	100.0%	98.8%	Neurodegeneration with brain iron accumulation 4, 614298 ?Spastic paraplegia 43, autosomal recessive, 615043
C1QA	100.0%	100.0%	100.0%	99.9%	C1q deficiency 1, 613652
C1QB	100.0%	100.0%	100.0%	98.8%	C1q deficiency 2, 620321
C1QBP	100.0%	100.0%	100.0%	99.1%	Combined oxidative phosphorylation deficiency 33, 617713
C1QC	100.0%	100.0%	100.0%	99.3%	C1q deficiency 3, 620322
C1S	99.9%	99.3%	100.0%	99.6%	C1s deficiency, 613783 Ehlers-Danlos syndrome, periodontal type, 2, 617174

C2CD3	96.0%	96.0%	100.0%	99.4%	Orofaciodigital syndrome XIV, 615948
C2orf69	100.0%	100.0%	100.0%	99.3%	Combined oxidative phosphorylation deficiency 53, 619423
C3	100.0%	100.0%	100.0%	99.4%	C3 deficiency, 613779
C4A	99.7%	99.3%	99.4%	96.0%	C4a deficiency, 614380
C4B	100.0%	99.8%	99.1%	95.1%	C4B deficiency, 614379
C5	100.0%	100.0%	100.0%	99.2%	C5 deficiency, 609536
C8A	100.0%	100.0%	100.0%	99.7%	C8 deficiency, type I, 613790
C8B	100.0%	100.0%	100.0%	99.7%	C8 deficiency, type II, 613789
C8orf37	100.0%	100.0%	100.0%	99.8%	Retinitis pigmentosa 64, 614500 Cone-rod dystrophy 16, 614500 Bardet-Biedl syndrome 21, 617406
C9	100.0%	100.0%	100.0%	99.3%	C9 deficiency, 613825
CA12	100.0%	100.0%	100.0%	99.6%	Hyperchlorhidrosis, isolated, 143860
CA2	100.0%	100.0%	100.0%	99.5%	Osteopetrosis, autosomal recessive 3, with renal tubular acidosis, 259730
CA5A	100.0%	100.0%	100.0%	99.1%	Hyperammonemia due to carbonic anhydrase VA deficiency, 615751
CA8	100.0%	100.0%	100.0%	99.6%	Cerebellar ataxia, impaired intellectual development and dysequilibrium syndrome 3, 613227
CABP2	100.0%	100.0%	100.0%	98.9%	Deafness, autosomal recessive 93, 614899
CABP4	100.0%	100.0%	100.0%	99.9%	Cone-rod synaptic disorder, congenital nonprogressive, 610427
CACNA1B	100.0%	100.0%	100.0%	99.5%	Neurodevelopmental disorder with seizures and nonepileptic hyperkinetic movements, 618497
CACNA1D	100.0%	100.0%	100.0%	99.3%	Primary aldosteronism, seizures, and neurologic abnormalities, 615474 Sinoatrial node dysfunction and deafness, 614896
CACNA2D2	100.0%	100.0%	100.0%	99.5%	Cerebellar atrophy with seizures and variable developmental delay, 618501
CAD	100.0%	100.0%	100.0%	99.8%	Developmental and epileptic encephalopathy 50, 616457
CAMK2A	100.0%	100.0%	100.0%	99.4%	Intellectual developmental disorder, autosomal dominant 53, 617798 ?Intellectual developmental disorder, autosomal recessive 63, 618095
CANT1	100.0%	100.0%	100.0%	99.9%	Desbuquois dysplasia 1, 251450 Epiphyseal dysplasia, multiple, 7, 617719
CAPN1	100.0%	100.0%	100.0%	99.8%	Spastic paraplegia 76, autosomal recessive, 616907
CAPN10	100.0%	100.0%	100.0%	99.8%	No OMIM disease ID
CAPN3	100.0%	100.0%	100.0%	99.3%	Muscular dystrophy, limb-girdle, autosomal recessive 1, 253600 Muscular dystrophy, limb-girdle, autosomal dominant 4, 618129
CARD11	100.0%	100.0%	100.0%	99.7%	B-cell expansion with NFKB and T-cell anergy, 616452 Immunodeficiency 11B with atopic dermatitis, 617638 Immunodeficiency 11A, 615206
CARD9	100.0%	100.0%	100.0%	100.0%	Immunodeficiency 103, susceptibility to fungal infection, 212050

CARS2	100.0%	100.0%	100.0%	99.6%	Combined oxidative phosphorylation deficiency 27, 616672
CASP14	100.0%	100.0%	100.0%	98.7%	Ichthyosis, congenital, autosomal recessive 12, 617320
CASP8	95.1%	95.1%	100.0%	99.5%	?Caspase 8 lymphadenopathy syndrome, 607271 Hepatocellular carcinoma, somatic, 114550
CASQ2	100.0%	100.0%	100.0%	99.1%	Ventricular tachycardia, catecholaminergic polymorphic, 2, 611938
CASR	100.0%	100.0%	100.0%	99.7%	Hypocalcemia, autosomal dominant, with Bartter syndrome, 601198 Hyperparathyroidism, neonatal, 239200 Hypocalcemia, autosomal dominant, 601198 Hypocalciuric hypercalcemia, type I, 145980
CAST	100.0%	100.0%	100.0%	99.3%	Peeling skin with leukonychia, acral punctate keratoses, cheilitis, and knuckle pads, 616295
CAT	100.0%	100.0%	100.0%	99.4%	Acatalasemia, 614097
CATSPER1	100.0%	100.0%	100.0%	98.4%	Spermatogenic failure 7, 612997
CAV1	100.0%	100.0%	100.0%	99.8%	Lipodystrophy, congenital generalized, type 3, 612526 Pulmonary hypertension, primary, 3, 615343 Lipodystrophy, familial partial, type 7, 606721
CAVIN1	100.0%	100.0%	100.0%	100.0%	Lipodystrophy, congenital generalized, type 4, 613327
CBLIF	100.0%	100.0%	100.0%	99.8%	Intrinsic factor deficiency, 261000
CBS	100.0%	100.0%	100.0%	100.0%	Thrombosis, hyperhomocysteinemic, 236200 Homocystinuria, B6-responsive and nonresponsive types, 236200
CC2D1A	100.0%	100.0%	100.0%	99.5%	Intellectual developmental disorder, autosomal recessive 3, 608443
CC2D2A	98.2%	98.2%	100.0%	99.4%	COACH syndrome 2, 619111 Retinitis pigmentosa 93, 619845 Meckel syndrome 6, 612284 Joubert syndrome 9, 612285
CCBE1	100.0%	100.0%	100.0%	99.9%	Hennekam lymphangiectasia-lymphedema syndrome 1, 235510
CCDC103	100.0%	100.0%	100.0%	99.6%	Ciliary dyskinesia, primary, 17, 614679
CCDC114	100.0%	100.0%	100.0%	99.4%	Ciliary dyskinesia, primary, 20, 615067
CCDC115	100.0%	100.0%	100.0%	98.7%	Congenital disorder of glycosylation, type IIo, 616828
CCDC151	100.0%	100.0%	100.0%	99.9%	Ciliary dyskinesia, primary, 30, 616037
CCDC174	100.0%	100.0%	100.0%	98.5%	Hypotonia, infantile, with psychomotor retardation, 616816
CCDC39	100.0%	100.0%	100.0%	98.4%	Ciliary dyskinesia, primary, 14, 613807
CCDC40	100.0%	100.0%	100.0%	99.3%	Ciliary dyskinesia, primary, 15, 613808
CCDC47	100.0%	100.0%	100.0%	98.9%	Trichohepatoneurodevelopmental syndrome, 618268
CCDC65	100.0%	100.0%	100.0%	99.0%	Ciliary dyskinesia, primary, 27, 615504
CCDC8	100.0%	100.0%	100.0%	99.5%	3-M syndrome 3, 614205

CCDC88A	97.4%	97.4%	100.0%	97.7%	?PEHO syndrome-like, 617507
CCDC88C	100.0%	100.0%	100.0%	99.7%	?Spinocerebellar ataxia 40, 616053 Hydrocephalus, congenital, 1, 236600
CCN6	100.0%	100.0%	100.0%	99.4%	Progressive pseudorheumatoid dysplasia, 208230
CCNO	100.0%	100.0%	100.0%	99.9%	Ciliary dyskinesia, primary, 29, 615872
CCT5	100.0%	100.0%	100.0%	99.7%	Neuropathy, hereditary sensory, with spastic paraplegia, 256840
CD151	100.0%	100.0%	100.0%	100.0%	Epidermolysis bullosa simplex 7, with nephropathy and deafness, 609057
CD19	100.0%	100.0%	100.0%	99.3%	Immunodeficiency, common variable, 3, 613493
CD247	100.0%	100.0%	100.0%	99.9%	?Immunodeficiency 25, 610163
CD27	100.0%	100.0%	100.0%	99.7%	Lymphoproliferative syndrome 2, 615122
CD2AP	100.0%	100.0%	100.0%	98.7%	Glomerulosclerosis, focal segmental, 3, 607832
CD320	100.0%	100.0%	100.0%	100.0%	Methylmalonic aciduria, transient, due to transcobalamin receptor defect, 613646
CD3D	100.0%	100.0%	100.0%	99.9%	Immunodeficiency 19, severe combined, 615617
CD3E	100.0%	100.0%	100.0%	99.4%	Immunodeficiency 18, 615615 Immunodeficiency 18, SCID variant, 615615
CD3G	100.0%	100.0%	100.0%	99.6%	Immunodeficiency 17, CD3 gamma deficient, 615607
CD40	100.0%	100.0%	100.0%	99.3%	Immunodeficiency with hyper-IgM, type 3, 606843
CD55	95.8%	92.9%	100.0%	99.7%	Complement hyperactivation, angiopathic thrombosis, and protein-losing enteropathy, 226300
CD59	100.0%	100.0%	100.0%	99.6%	Hemolytic anemia, CD59-mediated, w/wo immune-mediated polyneuropathy, 612300
CD79A	100.0%	99.5%	99.9%	93.2%	Agammaglobulinemia 3, 613501
CD79B	100.0%	100.0%	100.0%	99.8%	Agammaglobulinemia 6, 612692
CD81	100.0%	99.9%	100.0%	100.0%	Immunodeficiency, common variable, 6, 613496
CD8A	100.0%	100.0%	100.0%	99.9%	CD8 deficiency, familial, 608957
CDAN1	100.0%	100.0%	100.0%	99.4%	Dyserythropoietic anemia, congenital, type Ia, 224120
CDC14A	100.0%	100.0%	100.0%	98.6%	Deafness, autosomal recessive 32, w/wo immotile sperm, 608653
CDC45	100.0%	100.0%	100.0%	99.8%	Meier-Gorlin syndrome 7, 617063
CDC6	100.0%	100.0%	100.0%	99.3%	?Meier-Gorlin syndrome 5, 613805
CDCA7	100.0%	100.0%	100.0%	99.6%	Immunodeficiency-centromeric instability-facial anomalies syndrome 3, 616910
CDH11	100.0%	100.0%	100.0%	99.7%	Teebi hypertelorism syndrome 2, 619736 Elsahy-Waters syndrome, 211380
CDH23	100.0%	100.0%	100.0%	99.8%	Usher syndrome, type 1D, 601067 Usher syndrome, type 1D/F digenic, 601067 Deafness, autosomal recessive 12, 601386
CDH3	100.0%	100.0%	100.0%	99.7%	Hypotrichosis, congenital, with juvenile macular dystrophy, 601553 Ectodermal dysplasia, ectrodactyly, and macular dystrophy, 225280

CDHR1	100.0%	100.0%	100.0%	99.7%	Macular dystrophy, retinal, 613660 Cone-rod dystrophy 15, 613660 Retinitis pigmentosa 65, 613660
CDK10	100.0%	100.0%	100.0%	99.9%	Al Kaissi syndrome, 617694
CDK5	100.0%	100.0%	100.0%	99.9%	?Lissencephaly 7 with cerebellar hypoplasia, 616342
CDK5RAP2	100.0%	100.0%	100.0%	99.3%	Microcephaly 3, primary, autosomal recessive, 604804
CDK6	100.0%	100.0%	100.0%	99.4%	?Microcephaly 12, primary, autosomal recessive, 616080
CDSN	100.0%	100.0%	100.0%	99.8%	Hypotrichosis 2, 146520 Peeling skin syndrome 1, 270300
CDT1	100.0%	100.0%	100.0%	99.7%	Meier-Gorlin syndrome 4, 613804
CEACAM16	100.0%	100.0%	100.0%	99.8%	Deafness, autosomal dominant 4B, 614614 Deafness, autosomal recessive 113, 618410
CEBPE	100.0%	100.0%	100.0%	99.1%	?Immunodeficiency 108 with autoinflammation, 260570 Specific granule deficiency, 245480
CENPE	100.0%	100.0%	100.0%	98.2%	?Microcephaly 13, primary, autosomal recessive, 616051
CENPF	100.0%	100.0%	100.0%	98.8%	Stromme syndrome, 243605
CENPJ	100.0%	100.0%	100.0%	99.2%	Microcephaly 6, primary, autosomal recessive, 608393 ?Seckel syndrome 4, 613676
CEP104	100.0%	100.0%	100.0%	98.9%	Joubert syndrome 25, 616781 Intellectual developmental disorder, autosomal recessive 77, 619988
CEP120	100.0%	100.0%	100.0%	99.6%	Short-rib thoracic dysplasia 13 w/wo polydactyly, 616300 Joubert syndrome 31, 617761
CEP135	100.0%	100.0%	100.0%	98.8%	Microcephaly 8, primary, autosomal recessive, 614673
CEP152	100.0%	100.0%	100.0%	99.1%	Microcephaly 9, primary, autosomal recessive, 614852 Seckel syndrome 5, 613823
CEP164	100.0%	100.0%	100.0%	98.7%	Nephronophthisis 15, 614845
CEP19	100.0%	100.0%	100.0%	99.3%	Morbid obesity and spermatogenic failure, 615703
CEP290	100.0%	100.0%	100.0%	98.5%	Leber congenital amaurosis 10, 611755 Joubert syndrome 5, 610188 Senior-Loken syndrome 6, 610189 ?Bardet-Biedl syndrome 14, 615991 Meckel syndrome 4, 611134
CEP41	100.0%	100.0%	100.0%	99.0%	Joubert syndrome 15, 614464
CEP55	100.0%	100.0%	100.0%	99.4%	Multinucleated neurons, anhydramnios, renal dysplasia, cerebellar hypoplasia, and hydranencephaly, 236500
CEP57	100.0%	100.0%	99.9%	98.4%	Mosaic variegated aneuploidy syndrome 2, 614114

CEP63	100.0%	100.0%	100.0%	98.9%	?Seckel syndrome 6, 614728
CEP78	100.0%	100.0%	100.0%	99.5%	Cone-rod dystrophy and hearing loss, 617236
CEP83	100.0%	100.0%	100.0%	98.0%	Nephronophthisis 18, 615862
CERKL	98.8%	98.4%	100.0%	99.3%	Retinitis pigmentosa 26, 608380
CERS1	99.9%	99.5%	100.0%	99.8%	Epilepsy, progressive myoclonic, 8, 616230
CERS3	100.0%	100.0%	100.0%	99.5%	Ichthyosis, congenital, autosomal recessive 9, 615023
CFAP298	100.0%	100.0%	100.0%	99.3%	Ciliary dyskinesia, primary, 26, 615500
CFAP410	100.0%	100.0%	100.0%	99.9%	Retinal dystrophy with macular staphyloma, 617547 Spondylometaphyseal dysplasia, axial, 602271
CFAP53	100.0%	100.0%	99.9%	98.3%	Heterotaxy, visceral, 6, autosomal recessive, 614779
CFD	100.0%	100.0%	100.0%	99.0%	Complement factor D deficiency, 613912
CFH	100.0%	100.0%	100.0%	99.6%	Basal laminar drusen, 126700 Complement factor H deficiency, 609814
CFI	100.0%	100.0%	100.0%	99.0%	Complement factor I deficiency, 610984
CFL2	100.0%	100.0%	100.0%	99.3%	Nemaline myopathy 7, autosomal recessive, 610687
CFTR	100.0%	100.0%	100.0%	99.4%	Cystic fibrosis, 219700 Congenital bilateral absence of vas deferens, 277180 Sweat chloride elevation without CF,
CHAT	100.0%	100.0%	100.0%	99.3%	Myasthenic syndrome, congenital, 6, presynaptic, 254210
CHKB	100.0%	100.0%	100.0%	99.2%	Muscular dystrophy, congenital, megaconial type, 602541
CHMP1A	100.0%	100.0%	100.0%	99.9%	Pontocerebellar hypoplasia, type 8, 614961
CHP1	100.0%	100.0%	100.0%	99.1%	?Spastic ataxia 9, autosomal recessive, 618438
CHRM3	100.0%	100.0%	100.0%	99.6%	Prune belly syndrome, 100100
CHRNA1	100.0%	100.0%	100.0%	98.9%	Myasthenic syndrome, congenital, 1B, fast-channel, 608930 Myasthenic syndrome, congenital, 1A, slow-channel, 601462 Multiple pterygium syndrome, lethal type, 253290
CHRNB1	100.0%	100.0%	100.0%	99.0%	?Myasthenic syndrome, congenital, 2C, associated with acetylcholine receptor deficiency, 616314 Myasthenic syndrome, congenital, 2A, slow-channel, 616313
CHRND	100.0%	100.0%	100.0%	99.4%	?Myasthenic syndrome, congenital, 3C, associated with acetylcholine receptor deficiency, 616323 Multiple pterygium syndrome, lethal type, 253290 Myasthenic syndrome, congenital, 3B, fast-channel, 616322 ?Myasthenic syndrome, congenital, 3A, slow-channel, 616321

CHRNE	100.0%	100.0%	100.0%	99.6%	Myasthenic syndrome, congenital, 4A, slow-channel, 605809 Myasthenic syndrome, congenital, 4C, associated with acetylcholine receptor deficiency, 608931 Myasthenic syndrome, congenital, 4B, fast-channel, 616324
CHRNG	100.0%	100.0%	100.0%	99.9%	Multiple pterygium syndrome, lethal type, 253290 Escobar syndrome, 265000
CHST11	100.0%	100.0%	100.0%	99.6%	?Osteochondrodysplasia, brachydactyly, and overlapping malformed digits, 618167
CHST14	100.0%	100.0%	100.0%	98.6%	Ehlers-Danlos syndrome, musculocontractural type 1, 601776
CHST3	100.0%	100.0%	100.0%	99.9%	Spondyloepiphyseal dysplasia with congenital joint dislocations, 143095
CHST6	100.0%	100.0%	100.0%	100.0%	Macular corneal dystrophy, 217800
CHST8	100.0%	100.0%	100.0%	99.8%	?Peeling skin syndrome 3, 616265
CHSY1	99.9%	99.7%	100.0%	99.6%	Temtamy preaxial brachydactyly syndrome, 605282
CIB2	100.0%	99.9%	99.9%	98.8%	Deafness, autosomal recessive 48, 609439 Usher syndrome, type IJ, 614869
CIDEC	100.0%	100.0%	100.0%	99.6%	?Lipodystrophy, familial partial, type 5, 615238
CIITA	100.0%	100.0%	100.0%	99.6%	Bare lymphocyte syndrome, type II, complementation group A, 209920
CILK1	100.0%	100.0%	100.0%	99.7%	Endocrine-cerebroosteodysplasia, 612651
CISD2	100.0%	100.0%	100.0%	99.2%	Wolfram syndrome 2, 604928
CIT	100.0%	100.0%	100.0%	99.3%	Microcephaly 17, primary, autosomal recessive, 617090
CKAP2L	100.0%	100.0%	100.0%	99.1%	Filippi syndrome, 272440
CLCF1	100.0%	100.0%	100.0%	99.6%	Cold-induced sweating syndrome 2, 610313
CLCN1	100.0%	100.0%	100.0%	99.5%	Myotonia congenita, recessive, 255700 Myotonia congenita, dominant, 160800 Myotonia levior, 160800
CLCN2	100.0%	100.0%	100.0%	99.4%	Leukoencephalopathy with ataxia, 615651 Hyperaldosteronism, familial, type II, 605635
CLCN7	100.0%	100.0%	100.0%	99.9%	Hypopigmentation, organomegaly, and delayed myelination and development, 618541 Osteopetrosis, autosomal recessive 4, 611490 Osteopetrosis, autosomal dominant 2, 166600
CLCNKB	100.0%	100.0%	100.0%	99.4%	Bartter syndrome, type 3, 607364 Bartter syndrome, type 4b, digenic, 613090
CLDN1	100.0%	100.0%	100.0%	99.8%	Ichthyosis, leukocyte vacuoles, alopecia, and sclerosing cholangitis, 607626
CLDN10	100.0%	100.0%	100.0%	100.0%	HELIX syndrome, 617671
CLDN14	100.0%	100.0%	100.0%	99.9%	Deafness, autosomal recessive 29, 614035
CLDN16	100.0%	100.0%	100.0%	99.2%	Hypomagnesemia 3, renal, 248250

CLDN19	100.0%	100.0%	100.0%	99.8%	Hypomagnesemia 5, renal, with ocular involvement, 248190
CLIP1	100.0%	100.0%	100.0%	98.8%	No OMIM disease ID
CLMP	100.0%	100.0%	100.0%	99.5%	Congenital short bowel syndrome, 615237
CLN3	93.2%	93.1%	100.0%	99.3%	Ceroid lipofuscinosis, neuronal, 3, 204200
CLN5	83.1%	83.0%	100.0%	98.6%	Ceroid lipofuscinosis, neuronal, 5, 256731
CLN6	100.0%	100.0%	100.0%	99.6%	Ceroid lipofuscinosis, neuronal, 6B (Kufs type), 204300 Ceroid lipofuscinosis, neuronal, 6A, 601780
CLN8	100.0%	100.0%	100.0%	99.5%	Ceroid lipofuscinosis, neuronal, 8, Northern epilepsy variant, 610003 Ceroid lipofuscinosis, neuronal, 8, 600143
CLP1	100.0%	100.0%	100.0%	99.8%	Pontocerebellar hypoplasia, type 10, 615803
CLPB	100.0%	100.0%	100.0%	98.9%	Neutropenia, severe congenital, 9, autosomal dominant, 619813 3-methylglutaconic aciduria, type VIIB, autosomal recessive, 616271 3-methylglutaconic aciduria, type VIIA, autosomal dominant, 619835
CLPP	100.0%	100.0%	100.0%	99.3%	Perrault syndrome 3, 614129
CLRN1	100.0%	100.0%	100.0%	99.2%	Usher syndrome, type 3A, 276902 Retinitis pigmentosa 61, 614180
CNGA1	91.2%	91.2%	100.0%	98.1%	Retinitis pigmentosa 49, 613756
CNGA3	100.0%	100.0%	100.0%	99.9%	Achromatopsia 2, 216900
CNGB1	100.0%	100.0%	100.0%	99.4%	Retinitis pigmentosa 45, 613767
CNGB3	100.0%	100.0%	100.0%	99.5%	Achromatopsia 3, 262300
CNNM2	100.0%	100.0%	100.0%	99.6%	Hypomagnesemia 6, renal, 613882 Hypomagnesemia, seizures, and impaired intellectual development 1, 616418
CNNM4	100.0%	100.0%	100.0%	99.8%	Jalili syndrome, 217080
CNPY3	100.0%	100.0%	100.0%	99.6%	Developmental and epileptic encephalopathy 60, 617929
CNTN1	100.0%	100.0%	100.0%	99.2%	?Congenital myopathy 12, 612540
CNTN2	100.0%	100.0%	100.0%	99.6%	?Epilepsy, myoclonic, familial adult, 5, 615400
CNTNAP1	100.0%	100.0%	100.0%	99.4%	Lethal congenital contracture syndrome 7, 616286 Hypomyelinating neuropathy, congenital, 3, 618186
CNTNAP2	100.0%	100.0%	100.0%	99.4%	Pitt-Hopkins like syndrome 1, 610042
COA5	82.4%	82.4%	100.0%	99.4%	?Mitochondrial complex IV, deficiency, nuclear type 9, 616500
COA6	100.0%	100.0%	100.0%	99.4%	Mitochondrial complex IV deficiency, nuclear type 13, 616501
COA7	100.0%	100.0%	100.0%	99.6%	Spinocerebellar ataxia, autosomal recessive, with axonal neuropathy 3, 618387
COA8	100.0%	99.9%	100.0%	98.9%	Mitochondrial complex IV deficiency, nuclear type 17, 619061
COASY	100.0%	100.0%	100.0%	99.5%	Pontocerebellar hypoplasia, type 12, 618266 Neurodegeneration with brain iron accumulation 6, 615643

COCH	100.0%	100.0%	100.0%	99.7%	Deafness, autosomal dominant 9, 601369 ?Deafness, autosomal recessive 110, 618094
COG1	100.0%	100.0%	100.0%	99.7%	Congenital disorder of glycosylation, type IIg, 611209
COG4	100.0%	100.0%	100.0%	99.5%	Congenital disorder of glycosylation, type IIj, 613489 Saul-Wilson syndrome, 618150
COG5	100.0%	100.0%	100.0%	99.2%	Congenital disorder of glycosylation, type IIi, 613612
COG6	100.0%	100.0%	100.0%	99.3%	Shaheen syndrome, 615328 Congenital disorder of glycosylation, type III, 614576
COG7	100.0%	100.0%	100.0%	99.5%	Congenital disorder of glycosylation, type IIe, 608779
COG8	100.0%	100.0%	100.0%	99.7%	Congenital disorder of glycosylation, type IIh, 611182
COL11A1	100.0%	100.0%	100.0%	99.2%	Fibrochondrogenesis 1, 228520 Stickler syndrome, type II, 604841 Marshall syndrome, 154780 Deafness, autosomal dominant 37, 618533
COL11A2	100.0%	100.0%	100.0%	99.4%	Deafness, autosomal dominant 13, 601868 Otospondylomegaepiphyseal dysplasia, autosomal recessive, 215150 Fibrochondrogenesis 2, 614524 Deafness, autosomal recessive 53, 609706 Otospondylomegaepiphyseal dysplasia, autosomal dominant, 184840
COL12A1	100.0%	100.0%	100.0%	99.4%	Bethlem myopathy 2, 616471 ?Ullrich congenital muscular dystrophy 2, 616470
COL13A1	100.0%	100.0%	100.0%	99.7%	Myasthenic syndrome, congenital, 19, 616720
COL17A1	100.0%	100.0%	100.0%	99.7%	Epithelial recurrent erosion dystrophy, 122400 Epidermolysis bullosa, junctional 4, intermediate, 619787
COL18A1	100.0%	100.0%	100.0%	99.8%	Knobloch syndrome, type 1, 267750 Glaucoma, primary closed-angle, 618880
COL1A2	100.0%	100.0%	100.0%	99.5%	Osteogenesis imperfecta, type III, 259420 Ehlers-Danlos syndrome, arthrochalasia type, 2, 617821 Combined osteogenesis imperfecta and Ehlers-Danlos syndrome 2, 619120 Ehlers-Danlos syndrome, cardiac valvular type, 225320 Osteogenesis imperfecta, type IV, 166220 Osteogenesis imperfecta, type II, 166210
COL25A1	99.4%	99.4%	100.0%	99.2%	Fibrosis of extraocular muscles, congenital, 5, 616219
COL27A1	100.0%	100.0%	100.0%	99.4%	Steel syndrome, 615155

COL3A1	100.0%	100.0%	100.0%	99.2%	Ehlers-Danlos syndrome, vascular type, 130050 Polymicrogyria w/wo vascular-type EDS, 618343
COL4A3	100.0%	100.0%	100.0%	99.3%	Hematuria, benign familial, 2, 620320 Alport syndrome 3, autosomal dominant, 104200 Alport syndrome 2, autosomal recessive, 203780
COL4A4	100.0%	100.0%	100.0%	99.4%	Hematuria, familial benign, 1, 141200 Alport syndrome 2, autosomal recessive, 203780
COL6A1	100.0%	100.0%	100.0%	99.8%	Bethlem myopathy 1, 158810 Ullrich congenital muscular dystrophy 1, 254090
COL6A2	100.0%	100.0%	100.0%	99.9%	Bethlem myopathy 1, 158810 ?Myosclerosis, congenital, 255600 Ullrich congenital muscular dystrophy 1, 254090
COL6A3	100.0%	100.0%	100.0%	99.5%	Ullrich congenital muscular dystrophy 1, 254090 Dystonia 27, 616411 Bethlem myopathy 1, 158810
COL7A1	100.0%	100.0%	100.0%	99.7%	Nail disorder, nonsyndromic congenital, 8, 607523 Epidermolysis bullosa dystrophica, Bart type, 132000 Epidermolysis bullosa dystrophica inversa, 226600 Epidermolysis bullosa dystrophica, autosomal recessive, 226600 Epidermolysis bullosa, pretibial, 131850 Epidermolysis bullosa dystrophica, autosomal dominant, 131750 Transient bullous of the newborn, 131705 Epidermolysis bullosa pruriginosa, 604129 Epidermolysis bullosa dystrophica, localisata variant, 226600
COL9A1	100.0%	100.0%	100.0%	99.0%	Stickler syndrome, type IV, 614134 ?Epiphyseal dysplasia, multiple, 6, 614135
COL9A2	100.0%	100.0%	100.0%	99.5%	Epiphyseal dysplasia, multiple, 2, 600204 ?Stickler syndrome, type V, 614284
COLEC10	100.0%	100.0%	100.0%	98.3%	3MC syndrome 3, 248340
COLEC11	100.0%	100.0%	100.0%	100.0%	3MC syndrome 2, 265050
COLGALT1	100.0%	100.0%	100.0%	98.9%	Brain small vessel disease 3, 618360
COLQ	100.0%	100.0%	100.0%	99.5%	Myasthenic syndrome, congenital, 5, 603034
COPB2	100.0%	100.0%	100.0%	99.6%	Osteoporosis, childhood- or juvenile-onset, with developmental delay, 619884 ?Microcephaly 19, primary, autosomal recessive, 617800
COQ2	96.3%	96.3%	100.0%	99.7%	Coenzyme Q10 deficiency, primary, 1, 607426

COQ4	100.0%	100.0%	100.0%	99.9%	Coenzyme Q10 deficiency, primary, 7, 616276
COQ6	100.0%	100.0%	100.0%	99.5%	Coenzyme Q10 deficiency, primary, 6, 614650
COQ8A	100.0%	100.0%	100.0%	100.0%	Coenzyme Q10 deficiency, primary, 4, 612016
COQ8B	100.0%	100.0%	100.0%	99.8%	Nephrotic syndrome, type 9, 615573
COQ9	100.0%	100.0%	100.0%	99.6%	Coenzyme Q10 deficiency, primary, 5, 614654
CORO1A	100.0%	100.0%	100.0%	98.7%	Immunodeficiency 8, 615401
COX10	100.0%	100.0%	99.9%	98.3%	Mitochondrial complex IV deficiency, nuclear type 3, 619046
COX14	100.0%	100.0%	100.0%	100.0%	?Mitochondrial complex IV deficiency, nuclear type 10, 619053
COX15	100.0%	100.0%	100.0%	99.2%	Mitochondrial complex IV deficiency, nuclear type 6, 615119
COX20	100.0%	100.0%	100.0%	99.4%	Mitochondrial complex IV deficiency, nuclear type 11, 619054
COX4I2	100.0%	100.0%	100.0%	98.8%	Exocrine pancreatic insufficiency, dyserythropoietic anemia, and calvarial hyperostosis, 612714
COX6A1	100.0%	100.0%	100.0%	99.4%	Charcot-Marie-Tooth disease, recessive intermediate D, 616039
COX6A2	100.0%	99.6%	100.0%	98.8%	Mitochondrial complex IV deficiency, nuclear type 18, 619062
COX6B1	100.0%	100.0%	100.0%	99.9%	Mitochondrial complex IV deficiency, nuclear type 7, 619051
COX8A	100.0%	100.0%	100.0%	100.0%	?Mitochondrial complex IV deficiency, nuclear type 15, 619059
CP	100.0%	100.0%	100.0%	99.0%	Cerebellar ataxia, 604290 Hemosiderosis, systemic, due to aceruloplasminemia, 604290
CPA6	100.0%	100.0%	100.0%	99.6%	Febrile seizures, familial, 11, 614418 Epilepsy, familial temporal lobe, 5, 614417
CPAMD8	100.0%	100.0%	100.0%	99.6%	Anterior segment dysgenesis 8, 617319
CPLANE1	100.0%	100.0%	100.0%	99.2%	Orofaciodigital syndrome VI, 277170 Joubert syndrome 17, 614615
CPLX1	100.0%	100.0%	100.0%	99.5%	Developmental and epileptic encephalopathy 63, 617976
CPN1	100.0%	100.0%	100.0%	99.1%	Carboxypeptidase N deficiency, 212070
CPOX	100.0%	100.0%	100.0%	99.4%	Coproporphyria, 121300 Harderoporphyria, 618892
CPS1	100.0%	100.0%	100.0%	99.4%	Carbamoylphosphate synthetase I deficiency, 237300
CPT1A	100.0%	100.0%	100.0%	99.3%	CPT deficiency, hepatic, type IA, 255120
CPT2	100.0%	100.0%	100.0%	99.7%	CPT II deficiency, infantile, 600649 CPT II deficiency, lethal neonatal, 608836 CPT II deficiency, myopathic, stress-induced, 255110
CR2	100.0%	100.0%	100.0%	99.5%	?Immunodeficiency, common variable, 7, 614699
CRADD	100.0%	100.0%	100.0%	99.3%	Intellectual developmental disorder, autosomal recessive 34, with variant lissencephaly, 614499
CRAT	100.0%	100.0%	100.0%	99.8%	?Neurodegeneration with brain iron accumulation 8, 617917

CRB1	100.0%	100.0%	100.0%	99.5%	Leber congenital amaurosis 8, 613835 Retinitis pigmentosa-12, 600105 Pigmented paravenous chorioretinal atrophy, 172870
CRB2	100.0%	100.0%	100.0%	99.8%	Focal segmental glomerulosclerosis 9, 616220 Ventriculomegaly with cystic kidney disease, 219730
CRBN	100.0%	99.1%	100.0%	99.1%	Intellectual developmental disorder, autosomal recessive 2, 607417
CREB3L1	100.0%	100.0%	100.0%	99.7%	Osteogenesis imperfecta, type XVI, 616229
CRIPT	100.0%	100.0%	100.0%	99.0%	Short stature with microcephaly and distinctive facies, 615789
CRLF1	99.7%	98.6%	99.7%	93.0%	Cold-induced sweating syndrome 1, 272430
CRPPA	100.0%	100.0%	100.0%	99.0%	Muscular dystrophy-dystroglycanopathy (limb-girdle), type C, 7, 616052 Muscular dystrophy-dystroglycanopathy (congenital with brain and eye anomalies), type A, 7, 614643
CRTAP	100.0%	100.0%	100.0%	99.5%	Osteogenesis imperfecta, type VII, 610682
CRYAA	100.0%	100.0%	100.0%	99.7%	Cataract 9, multiple types, 604219
CRYAB	100.0%	100.0%	100.0%	99.5%	Myopathy, myofibrillar, fatal infantile hypertonic, alpha-B crystallin-related, 613869 Myopathy, myofibrillar, 2, 608810 Cataract 16, multiple types, 613763 Cardiomyopathy, dilated, 1II, 615184
CRYBB1	100.0%	100.0%	100.0%	99.5%	Cataract 17, multiple types, 611544
CRYBB3	100.0%	100.0%	100.0%	99.6%	Cataract 22, 609741
CSF1R	100.0%	100.0%	100.0%	99.4%	Brain abnormalities, neurodegeneration, and dysosteosclerosis, 618476 Leukoencephalopathy, diffuse hereditary, with spheroids 1, 221820
CSF2RB	100.0%	100.0%	100.0%	99.8%	Surfactant metabolism dysfunction, pulmonary, 5, 614370
CSPP1	100.0%	100.0%	100.0%	99.2%	Joubert syndrome 21, 615636
CSTA	100.0%	100.0%	100.0%	99.3%	Peeling skin syndrome 4, 607936
CSTB	100.0%	100.0%	100.0%	99.7%	Epilepsy, progressive myoclonic 1A (Unverricht and Lundborg), 254800
CTC1	100.0%	100.0%	100.0%	99.6%	Cerebroretinal microangiopathy with calcifications and cysts, 612199
CTDP1	100.0%	100.0%	100.0%	99.9%	Congenital cataracts, facial dysmorphism, and neuropathy, 604168
CTNNA2	99.8%	99.4%	100.0%	99.5%	Cortical dysplasia, complex, with other brain malformations 9, 618174
CTNS	100.0%	100.0%	100.0%	99.5%	Cystinosis, nephropathic, 219800 Cystinosis, ocular nonnephropathic, 219750 Cystinosis, late-onset juvenile or adolescent nephropathic, 219900 Cystinosis, atypical nephropathic, 219800
CTPS1	100.0%	100.0%	100.0%	99.5%	Immunodeficiency 24, 615897
CTSA	100.0%	100.0%	100.0%	99.2%	Galactosialidosis, 256540

CTSC	100.0%	100.0%	100.0%	99.4%	Periodontitis 1, juvenile, 170650 Haim-Munk syndrome, 245010 Papillon-Lefevre syndrome, 245000
CTSD	100.0%	100.0%	100.0%	99.9%	Ceroid lipofuscinosis, neuronal, 10, 610127
CTSF	100.0%	100.0%	100.0%	99.6%	Ceroid lipofuscinosis, neuronal, 13 (Kufs type), 615362
CTSK	100.0%	100.0%	100.0%	99.8%	Pycnodysostosis, 265800
CTU2	100.0%	100.0%	100.0%	99.9%	Microcephaly, facial dysmorphism, renal agenesis, and ambiguous genitalia syndrome, 618142
CUBN	100.0%	100.0%	100.0%	99.5%	Imerslund-Grasbeck syndrome 1, 261100
CUL7	100.0%	100.0%	100.0%	99.5%	3-M syndrome 1, 273750
CWC27	100.0%	100.0%	100.0%	98.4%	Retinitis pigmentosa w/wo skeletal anomalies, 250410
CWF19L1	100.0%	100.0%	100.0%	99.3%	Spinocerebellar ataxia, autosomal recessive 17, 616127
CYB5A	100.0%	100.0%	100.0%	99.8%	Methemoglobinemia and ambiguous genitalia, 250790
CYB5R3	100.0%	100.0%	100.0%	99.7%	Methemoglobinemia, type I, 250800 Methemoglobinemia, type II, 250800
CYBA	100.0%	100.0%	100.0%	100.0%	Chronic granulomatous disease 4, autosomal recessive, 233690
CYC1	100.0%	100.0%	100.0%	99.7%	Mitochondrial complex III deficiency, nuclear type 6, 615453
CYP11A1	100.0%	100.0%	100.0%	99.8%	Adrenal insufficiency, congenital, with 46XY sex reversal, partial or complete, 613743
CYP11B1	100.0%	100.0%	100.0%	99.9%	Aldosteronism, glucocorticoid-remediable, 103900 Adrenal hyperplasia, congenital, due to 11-beta-hydroxylase deficiency, 202010
CYP11B2	100.0%	100.0%	100.0%	99.9%	Hypoaldosteronism, congenital, due to CMO I deficiency, 203400 Hypoaldosteronism, congenital, due to CMO II deficiency, 610600 Aldosterone to renin ratio raised,
CYP17A1	100.0%	100.0%	100.0%	99.7%	17,20-lyase deficiency, isolated, 202110 17-alpha-hydroxylase/17,20-lyase deficiency, 202110
CYP19A1	100.0%	99.9%	100.0%	99.4%	Aromatase deficiency, 613546 Aromatase excess syndrome, 139300
CYP1B1	100.0%	100.0%	100.0%	99.8%	Glaucoma 3A, primary open angle, congenital, juvenile, or adult onset, 231300 Anterior segment dysgenesis 6, multiple subtypes, 617315
CYP21A2	100.0%	99.9%	100.0%	99.6%	Hyperandrogenism, nonclassic type, due to 21-hydroxylase deficiency, 201910 Adrenal hyperplasia, congenital, due to 21-hydroxylase deficiency, 201910
CYP24A1	100.0%	100.0%	100.0%	99.7%	Hypercalcemia, infantile, 1, 143880
CYP26B1	100.0%	100.0%	100.0%	99.7%	Craniosynostosis with radiohumeral fusions and other skeletal and craniofacial anomalies, 614416
CYP26C1	100.0%	100.0%	100.0%	99.9%	Focal facial dermal dysplasia 4, 614974
CYP27A1	100.0%	100.0%	100.0%	99.8%	Cerebrotendinous xanthomatosis, 213700
CYP27B1	100.0%	100.0%	100.0%	99.6%	Vitamin D-dependent rickets, type I, 264700

CYP2C8	100.0%	100.0%	100.0%	99.4%	No OMIM disease ID
CYP2R1	100.0%	100.0%	100.0%	99.4%	Rickets due to defect in vitamin D 25-hydroxylation deficiency, 600081
CYP2U1	100.0%	100.0%	100.0%	99.6%	Spastic paraplegia 56, autosomal recessive, 615030
CYP4F22	100.0%	100.0%	100.0%	99.8%	Ichthyosis, congenital, autosomal recessive 5, 604777
CYP4V2	100.0%	100.0%	100.0%	99.1%	Bietti crystalline corneoretinal dystrophy, 210370
CYP7B1	100.0%	100.0%	100.0%	98.5%	Spastic paraplegia 5A, autosomal recessive, 270800 Bile acid synthesis defect, congenital, 3, 613812
D2HGDH	100.0%	100.0%	100.0%	99.7%	D-2-hydroxyglutaric aciduria, 600721
DAG1	100.0%	100.0%	100.0%	99.9%	Muscular dystrophy-dystroglycanopathy (congenital with brain and eye anomalies), type A, 9, 616538 Muscular dystrophy-dystroglycanopathy (limb-girdle), type C, 9, 613818
DARS1	100.0%	100.0%	100.0%	99.1%	Hypomyelination with brainstem and spinal cord involvement and leg spasticity, 615281
DARS2	100.0%	100.0%	100.0%	98.5%	Leukoencephalopathy with brain stem and spinal cord involvement and lactate elevation, 611105
DBH	100.0%	100.0%	100.0%	99.5%	Orthostatic hypotension 1, due to DBH deficiency, 223360
DBT	100.0%	100.0%	100.0%	99.2%	Maple syrup urine disease, type II, 248600
DCAF17	100.0%	100.0%	100.0%	99.8%	Woodhouse-Sakati syndrome, 241080
DCC	100.0%	100.0%	100.0%	99.5%	Mirror movements 1 and/or agenesis of the corpus callosum, 157600 Esophageal carcinoma, somatic, 133239 Colorectal cancer, somatic, 114500 Gaze palsy, familial horizontal, with progressive scoliosis, 2, 617542
DCDC2	100.0%	100.0%	100.0%	98.9%	Nephronophthisis 19, 616217 ?Deafness, autosomal recessive 66, 610212 Sclerosing cholangitis, neonatal, 617394
DCHS1	100.0%	100.0%	100.0%	99.9%	Mitral valve prolapse 2, 607829 Van Maldergem syndrome 1, 601390
DCLRE1C	100.0%	100.0%	100.0%	99.1%	Severe combined immunodeficiency, Athabascan type, 602450 Omenn syndrome, 603554
DCPS	100.0%	100.0%	100.0%	98.9%	Al-Raqad syndrome, 616459
DDB2	100.0%	100.0%	100.0%	99.1%	Xeroderma pigmentosum, group E, DDB-negative subtype, 278740
DDC	100.0%	100.0%	100.0%	99.2%	Aromatic L-amino acid decarboxylase deficiency, 608643
DDHD1	100.0%	100.0%	100.0%	99.3%	Spastic paraplegia 28, autosomal recessive, 609340
DDHD2	100.0%	100.0%	100.0%	99.7%	Spastic paraplegia 54, autosomal recessive, 615033
DDOST	100.0%	100.0%	100.0%	99.6%	Congenital disorder of glycosylation, type Ir, 614507
DDR2	100.0%	100.0%	100.0%	99.1%	Warburg-Cinotti syndrome, 618175 Spondylometaepiphyseal dysplasia, short limb-hand type, 271665

DDRGK1	100.0%	100.0%	100.0%	99.7%	Spondyloepimetaphyseal dysplasia, Shohat type, 602557
DDX11	100.0%	100.0%	100.0%	99.9%	Warsaw breakage syndrome, 613398
DDX59	100.0%	100.0%	100.0%	99.0%	Orofaciodigital syndrome V, 174300
DEAF1	100.0%	100.0%	100.0%	97.9%	Vulto-van Silfout-de Vries syndrome, 615828 Neurodevelopmental disorder with hypotonia, impaired expressive language, and w/wo seizures, 617171
DEGS1	100.0%	100.0%	100.0%	99.6%	Leukodystrophy, hypomyelinating, 18, 618404
DENND5A	100.0%	100.0%	100.0%	99.0%	Developmental and epileptic encephalopathy 49, 617281
DES	100.0%	100.0%	100.0%	99.8%	Scapuloperoneal syndrome, neurogenic, Kaeser type, 181400 Cardiomyopathy, dilated, 1I, 604765 Myopathy, myofibrillar, 1, 601419
DGKE	100.0%	100.0%	100.0%	99.0%	Nephrotic syndrome, type 7, 615008
DGUOK	100.0%	100.0%	100.0%	98.7%	Portal hypertension, noncirrhotic, 1, 617068 Progressive external ophthalmoplegia with mitochondrial DNA deletions, autosomal recessive 4, 617070 Mitochondrial DNA depletion syndrome 3 (hepatocerebral type), 251880
DHCR24	100.0%	100.0%	100.0%	99.8%	Desmosterolosis, 602398
DHCR7	100.0%	100.0%	100.0%	99.9%	Smith-Lemli-Opitz syndrome, 270400
DHDDS	94.4%	94.4%	100.0%	99.5%	Developmental delay and seizures w/wo movement abnormalities, 617836 ?Congenital disorder of glycosylation, type 1bb, 613861 Retinitis pigmentosa 59, 613861
DHFR	100.0%	100.0%	100.0%	99.6%	Megaloblastic anemia due to dihydrofolate reductase deficiency, 613839
DHH	100.0%	100.0%	100.0%	100.0%	46XY gonadal dysgenesis with minifascicular neuropathy, 607080 46XY sex reversal 7, 233420
DHODH	100.0%	100.0%	100.0%	100.0%	Miller syndrome, 263750
DHPS	96.7%	93.0%	100.0%	99.7%	Neurodevelopmental disorder with seizures and speech and walking impairment, 618480
DHTKD1	100.0%	100.0%	100.0%	99.4%	?Charcot-Marie-Tooth disease, axonal, type 2Q, 615025 Alpha-aminoadipic and alpha-ketoadipic aciduria, 204750
DHX38	100.0%	100.0%	100.0%	99.7%	Retinitis pigmentosa 84, 618220
DIAPH1	100.0%	100.0%	100.0%	97.4%	Deafness, autosomal dominant 1, w/wo thrombocytopenia, 124900 Seizures, cortical blindness, microcephaly syndrome, 616632
DIS3L2	100.0%	100.0%	100.0%	99.4%	Perlman syndrome, 267000
DLAT	100.0%	100.0%	100.0%	99.4%	Pyruvate dehydrogenase E2 deficiency, 245348
DLD	100.0%	100.0%	100.0%	99.3%	Dihydrolipoamide dehydrogenase deficiency, 246900
DLL3	100.0%	100.0%	100.0%	99.6%	Spondylocostal dysostosis 1, autosomal recessive, 277300

DLX5	100.0%	100.0%	100.0%	100.0%	Split-hand/foot malformation 1, 183600 ?Split-hand/foot malformation 1 with sensorineural hearing loss, 220600
DMGDH	100.0%	100.0%	100.0%	99.2%	Dimethylglycine dehydrogenase deficiency, 605850
DMP1	100.0%	100.0%	100.0%	99.5%	Hypophosphatemic rickets, AR, 241520
DMXL2	100.0%	100.0%	100.0%	99.2%	Developmental and epileptic encephalopathy 81, 618663 ?Deafness, autosomal dominant 71, 617605 ?Polyendocrine-polyneuropathy syndrome, 616113
DNA2	100.0%	100.0%	100.0%	98.9%	?Seckel syndrome 8, 615807 Progressive external ophthalmoplegia with mitochondrial DNA deletions, autosomal dominant 6, 615156
DNAAF1	100.0%	100.0%	100.0%	99.5%	Ciliary dyskinesia, primary, 13, 613193
DNAAF2	100.0%	100.0%	100.0%	99.7%	Ciliary dyskinesia, primary, 10, 612518
DNAAF3	100.0%	100.0%	99.9%	98.7%	Ciliary dyskinesia, primary, 2, 606763
DNAAF4	100.0%	100.0%	100.0%	98.5%	Ciliary dyskinesia, primary, 25, 615482
DNAAF5	100.0%	99.9%	100.0%	99.4%	Ciliary dyskinesia, primary, 18, 614874
DNAH1	100.0%	100.0%	100.0%	99.7%	Spermatogenic failure 18, 617576 Ciliary dyskinesia, primary, 37, 617577
DNAH11	100.0%	100.0%	100.0%	99.1%	Ciliary dyskinesia, primary, 7, w/wo situs inversus, 611884
DNAH5	99.9%	99.7%	100.0%	99.4%	Ciliary dyskinesia, primary, 3, w/wo situs inversus, 608644
DNAH9	100.0%	100.0%	100.0%	99.5%	Ciliary dyskinesia, primary, 40, 618300
DNAI1	100.0%	100.0%	100.0%	99.5%	Ciliary dyskinesia, primary, 1, w/wo situs inversus, 244400
DNAI2	100.0%	100.0%	100.0%	99.2%	Ciliary dyskinesia, primary, 9, w/wo situs inversus, 612444
DNAJB2	100.0%	100.0%	100.0%	99.5%	Spinal muscular atrophy, distal, autosomal recessive, 5, 614881
DNAJC12	100.0%	100.0%	100.0%	99.4%	Hyperphenylalaninemia, mild, non-BH4-deficient, 617384
DNAJC19	100.0%	100.0%	100.0%	99.6%	3-methylglutaconic aciduria, type V, 610198
DNAJC21	100.0%	100.0%	100.0%	98.5%	Bone marrow failure syndrome 3, 617052
DNAJC3	100.0%	100.0%	100.0%	98.5%	Ataxia, combined cerebellar and peripheral, with hearing loss and diabetes mellitus, 616192
DNAJC6	100.0%	100.0%	100.0%	99.3%	Parkinson disease 19a, juvenile-onset, 615528 Parkinson disease 19b, early-onset, 615528
DNAL1	100.0%	100.0%	100.0%	99.0%	Ciliary dyskinesia, primary, 16, 614017
DNASE1L3	100.0%	100.0%	100.0%	99.8%	Systemic lupus erythematosus 16, 614420
DNM1L	100.0%	100.0%	100.0%	99.5%	Optic atrophy 5, 610708 Encephalopathy, lethal, due to defective mitochondrial peroxisomal fission 1, 614388

DNM2	100.0%	100.0%	100.0%	99.5%	Centronuclear myopathy 1, 160150 Charcot-Marie-Tooth disease, axonal type 2M, 606482 Charcot-Marie-Tooth disease, dominant intermediate B, 606482 Lethal congenital contracture syndrome 5, 615368
DNMBP	100.0%	100.0%	100.0%	99.6%	Cataract 48, 618415
DNMT3B	100.0%	100.0%	100.0%	99.6%	Immunodeficiency-centromeric instability-facial anomalies syndrome 1, 242860 Facioscapulohumeral muscular dystrophy 4, digenic, 619478
DOCK2	99.9%	99.5%	100.0%	99.6%	Immunodeficiency 40, 616433
DOCK3	100.0%	100.0%	100.0%	99.6%	Neurodevelopmental disorder with impaired intellectual development, hypotonia, and ataxia, 618292
DOCK6	100.0%	100.0%	100.0%	99.7%	Adams-Oliver syndrome 2, 614219
DOCK7	100.0%	100.0%	100.0%	99.0%	Developmental and epileptic encephalopathy 23, 615859
DOCK8	100.0%	100.0%	100.0%	99.4%	Hyper-IgE recurrent infection syndrome, autosomal recessive, 243700
DOK7	100.0%	100.0%	100.0%	99.5%	Fetal akinesia deformation sequence 3, 618389 Myasthenic syndrome, congenital, 10, 254300
DOLK	100.0%	100.0%	100.0%	99.6%	Congenital disorder of glycosylation, type Im, 610768
DONSON	100.0%	100.0%	100.0%	99.8%	Microcephaly, short stature, and limb abnormalities, 617604 Microcephaly-micromelia syndrome, 251230
DPAGT1	100.0%	100.0%	100.0%	99.6%	Myasthenic syndrome, congenital, 13, with tubular aggregates, 614750 Congenital disorder of glycosylation, type Ij, 608093
DPH1	100.0%	100.0%	100.0%	99.8%	Developmental delay with short stature, dysmorphic facial features, and sparse hair, 616901
DPM1	99.2%	96.6%	100.0%	98.6%	Congenital disorder of glycosylation, type Ie, 608799
DPM2	100.0%	100.0%	100.0%	99.3%	Congenital disorder of glycosylation, type Iu, 615042
DPM3	100.0%	100.0%	100.0%	98.7%	?Muscular dystrophy-dystroglycanopathy (congenital with impaired intellectual development), type B, 15, 618992 Muscular dystrophy-dystroglycanopathy (limb-girdle), type C, 15, 612937
DPY19L2	100.0%	100.0%	100.0%	99.4%	Spermatogenic failure 9, 613958
DPYD	99.8%	99.6%	100.0%	99.3%	Dihydropyrimidine dehydrogenase deficiency, 274270 5-fluorouracil toxicity, 274270
DPYS	100.0%	100.0%	100.0%	99.5%	Dihydropyrimidinuria, 222748
DRAM2	100.0%	100.0%	100.0%	99.8%	Cone-rod dystrophy 21, 616502
DRC1	100.0%	100.0%	100.0%	99.5%	Spermatogenic failure 80, 620222 Ciliary dyskinesia, primary, 21, 615294
DSC2	100.0%	100.0%	100.0%	99.6%	Arrhythmogenic right ventricular dysplasia 11 with mild palmoplantar keratoderma and woolly hair, 610476 Arrhythmogenic right ventricular dysplasia 11, 610476

DSC3	100.0%	100.0%	100.0%	99.2%	Hypotrichosis and recurrent skin vesicles, 613102
DSE	100.0%	100.0%	100.0%	99.7%	Ehlers-Danlos syndrome, musculocontractural type 2, 615539
DSG4	100.0%	100.0%	100.0%	99.3%	Hypotrichosis 6, 607903
DSP	100.0%	100.0%	100.0%	99.2%	Arrhythmogenic right ventricular dysplasia 8, 607450 Epidermolysis bullosa, lethal acantholytic, 609638 Keratosis palmoplantaris striata II, 612908 Dilated cardiomyopathy with woolly hair, keratoderma, and tooth agenesis, 615821 Cardiomyopathy, dilated, with woolly hair and keratoderma, 605676
DST	100.0%	100.0%	100.0%	99.1%	Neuropathy, hereditary sensory and autonomic, type VI, 614653 Epidermolysis bullosa simplex 3, localized or generalized intermediate, with bp230 deficiency, 615425
DSTYK	100.0%	100.0%	100.0%	99.7%	Congenital anomalies of kidney and urinary tract 1, 610805 Spastic paraplegia 23, 270750
DTNBP1	100.0%	100.0%	100.0%	99.5%	Hermansky-Pudlak syndrome 7, 614076
DTYMK	100.0%	100.0%	100.0%	99.9%	Neurodegeneration, childhood-onset, with progressive microcephaly, 619847
DUOX2	100.0%	100.0%	100.0%	99.6%	Thyroid dyshormonogenesis 6, 607200
DUOXA2	100.0%	100.0%	100.0%	100.0%	Thyroid dyshormonogenesis 5, 274900
DYM	100.0%	99.9%	100.0%	99.0%	Smith-McCort dysplasia, 607326 Dyggve-Melchior-Clausen disease, 223800
DYNC1I2	100.0%	100.0%	100.0%	99.6%	Neurodevelopmental disorder with microcephaly and structural brain anomalies, 618492
DYNC2H1	99.8%	99.4%	100.0%	99.1%	Short-rib thoracic dysplasia 3 w/wo polydactyly, 613091
DYNC2LI1	100.0%	100.0%	100.0%	98.5%	Short-rib thoracic dysplasia 15 with polydactyly, 617088
DYSF	100.0%	100.0%	100.0%	99.6%	Muscular dystrophy, limb-girdle, autosomal recessive 2, 253601 Miyoshi muscular dystrophy 1, 254130 Myopathy, distal, with anterior tibial onset, 606768
DZIP1L	100.0%	100.0%	100.0%	99.2%	Polycystic kidney disease 5, 617610
EARS2	100.0%	100.0%	100.0%	99.6%	Combined oxidative phosphorylation deficiency 12, 614924
ECEL1	100.0%	100.0%	100.0%	99.8%	Arthrogryposis, distal, type 5D, 615065
ECHS1	100.0%	100.0%	100.0%	99.0%	Mitochondrial short-chain enoyl-CoA hydratase 1 deficiency, 616277
ECM1	100.0%	100.0%	100.0%	99.5%	Urbach-Wiethe disease, 247100
EDAR	100.0%	100.0%	100.0%	99.7%	Ectodermal dysplasia 10A, hypohidrotic/hair/nail type, autosomal dominant, 129490 Ectodermal dysplasia 10B, hypohidrotic/hair/tooth type, autosomal recessive, 224900
EDARADD	100.0%	100.0%	100.0%	99.3%	Ectodermal dysplasia 11B, hypohidrotic/hair/tooth type, autosomal recessive, 614941 Ectodermal dysplasia 11A, hypohidrotic/hair/tooth type, autosomal dominant, 614940
EDC3	100.0%	100.0%	100.0%	99.8%	?Intellectual developmental disorder, autosomal recessive 50, 616460

EDEM3	100.0%	100.0%	100.0%	99.3%	Congenital disorder of glycosylation, type IIv, 619493
EDN1	100.0%	100.0%	100.0%	99.1%	Question mark ears, isolated, 612798 Auriculocondylar syndrome 3, 615706
EDN3	100.0%	100.0%	100.0%	100.0%	Waardenburg syndrome, type 4B, 613265
EDNRB	100.0%	100.0%	100.0%	99.0%	?ABCD syndrome, 600501 Waardenburg syndrome, type 4A, 277580
EFEMP2	100.0%	100.0%	100.0%	99.9%	Cutis laxa, autosomal recessive, type IB, 614437
EFL1	100.0%	100.0%	100.0%	99.6%	Shwachman-Diamond syndrome 2, 617941
EGF	100.0%	100.0%	100.0%	99.3%	?Hypomagnesemia 4, renal, 611718
EGFR	100.0%	100.0%	100.0%	99.6%	?Inflammatory skin and bowel disease, neonatal, 2, 616069 Nonsmall cell lung cancer, response to tyrosine kinase inhibitor in, 211980 Adenocarcinoma of lung, response to tyrosine kinase inhibitor in, 211980
EGR2	100.0%	100.0%	100.0%	99.6%	Dejerine-Sottas disease, 145900 Charcot-Marie-Tooth disease, type 1D, 607678 Hypomyelinating neuropathy, congenital, 1, 605253
EIF2AK3	100.0%	100.0%	100.0%	99.2%	Wolcott-Rallison syndrome, 226980
EIF2AK4	100.0%	100.0%	100.0%	99.3%	Pulmonary venoocclusive disease 2, 234810
EIF2B1	100.0%	100.0%	100.0%	99.8%	Leukoencephalopathy with vanishing white matter 1, w/wo ovarian failure, 603896
EIF2B2	100.0%	100.0%	100.0%	99.5%	Leukoencephalopathy with vanishing white matter 2, w/wo ovarian failure, 620312
EIF2B3	100.0%	100.0%	100.0%	99.0%	Leukoencephalopathy with vanishing white matter 3, w/wo ovarian failure, 620313
EIF2B4	100.0%	100.0%	100.0%	99.7%	Leukoencephalopathy with vanishing white matter 4, w/wo ovarian failure, 620314
EIF2B5	100.0%	100.0%	100.0%	99.4%	Leukoencephalopathy with vanishing white matter 5, w/wo ovarian failure, 620315
EIF3F	100.0%	100.0%	100.0%	99.7%	Intellectual developmental disorder, autosomal recessive 67, 618295
EIF4A3	100.0%	100.0%	100.0%	99.6%	Robin sequence with cleft mandible and limb anomalies, 268305
ELAC2	100.0%	100.0%	100.0%	99.7%	Combined oxidative phosphorylation deficiency 17, 615440
ELMO2	100.0%	100.0%	100.0%	99.0%	Vascular malformation, primary intraosseous, 606893
ELOVL4	100.0%	100.0%	100.0%	99.0%	Spinocerebellar ataxia 34, 133190 Stargardt disease 3, 600110 Ichthyosis, spastic quadriplegia, and impaired intellectual development, 614457
ELP1	100.0%	100.0%	100.0%	99.6%	Dysautonomia, familial, 223900
ELP2	100.0%	100.0%	100.0%	99.5%	Intellectual developmental disorder, autosomal recessive 58, 617270
EMC1	100.0%	100.0%	100.0%	99.2%	Cerebellar atrophy, visual impairment, and psychomotor retardation, 616875
EMG1	100.0%	100.0%	100.0%	99.7%	Bowen-Conradi syndrome, 211180
EML1	100.0%	100.0%	100.0%	99.4%	Band heterotopia, 600348
EMP2	100.0%	100.0%	100.0%	99.4%	Nephrotic syndrome, type 10, 615861

ENAM	100.0%	100.0%	100.0%	98.6%	Amelogenesis imperfecta, type IC, 204650 Amelogenesis imperfecta, type IB, 104500
ENO3	100.0%	100.0%	100.0%	99.9%	Glycogen storage disease XIII, 612932
ENPP1	100.0%	99.7%	100.0%	99.3%	Hypophosphatemic rickets, autosomal recessive, 2, 613312 Arterial calcification, generalized, of infancy, 1, 208000 Cole disease, 615522
ENTPD1	100.0%	100.0%	100.0%	99.5%	Spastic paraplegia 64, autosomal recessive, 615683
EOGT	98.1%	94.0%	100.0%	99.4%	Adams-Oliver syndrome 4, 615297
EPB41	100.0%	100.0%	100.0%	99.2%	Elliptocytosis-1, 611804
EPB42	100.0%	100.0%	100.0%	99.7%	Spherocytosis, type 5, 612690
EPCAM	100.0%	100.0%	100.0%	99.4%	Diarrhea 5, with tufting enteropathy, congenital, 613217 Lynch syndrome 8, 613244
EPG5	100.0%	100.0%	100.0%	99.2%	Vici syndrome, 242840
EPHX1	100.0%	100.0%	100.0%	99.7%	No OMIM disease ID
EPM2A	100.0%	100.0%	100.0%	97.2%	Epilepsy, progressive myoclonic 2A (Lafora), 254780
EPO	100.0%	100.0%	100.0%	99.4%	Erythrocytosis, familial, 5, 617907 ?Diamond-Blackfan anemia-like, 617911
EPRS1	100.0%	100.0%	100.0%	99.2%	Leukodystrophy, hypomyelinating, 15, 617951
EPS8L2	100.0%	100.0%	100.0%	99.1%	Deafness autosomal recessive 106, 617637
ERAL1	100.0%	100.0%	100.0%	99.7%	Perrault syndrome 6, 617565
ERBB3	100.0%	100.0%	100.0%	99.6%	?Lethal congenital contractural syndrome 2, 607598 Visceral neuropathy, familial, 1, autosomal recessive, 243180
ERCC1	100.0%	100.0%	100.0%	99.5%	Cerebrooculofacioskeletal syndrome 4, 610758
ERCC2	100.0%	100.0%	100.0%	99.7%	Xeroderma pigmentosum, group D, 278730 Trichothiodystrophy 1, photosensitive, 601675 ?Cerebrooculofacioskeletal syndrome 2, 610756
ERCC3	100.0%	100.0%	100.0%	99.5%	Trichothiodystrophy 2, photosensitive, 616390 Xeroderma pigmentosum, group B, 610651
ERCC4	100.0%	100.0%	100.0%	98.8%	Xeroderma pigmentosum, type F/Cockayne syndrome, 278760 XFE progeroid syndrome, 610965 Xeroderma pigmentosum, group F, 278760 Fanconi anemia, complementation group Q, 615272
ERCC5	100.0%	100.0%	100.0%	99.3%	Xeroderma pigmentosum, group G, 278780 Cerebrooculofacioskeletal syndrome 3, 616570 Xeroderma pigmentosum, group G/Cockayne syndrome, 278780

ERCC6	100.0%	100.0%	100.0%	99.4%	UV-sensitive syndrome 1, 600630 Cerebrooculofacioskeletal syndrome 1, 214150 ?De Sanctis-Cacchione syndrome, 278800 Cockayne syndrome, type B, 133540 Premature ovarian failure 11, 616946
ERCC6L2	100.0%	99.9%	100.0%	99.1%	Bone marrow failure syndrome 2, 615715
ERCC8	100.0%	100.0%	100.0%	99.4%	UV-sensitive syndrome 2, 614621 Cockayne syndrome, type A, 216400
ERLIN1	100.0%	100.0%	100.0%	99.9%	Spastic paraplegia 62, 615681
ERLIN2	100.0%	100.0%	100.0%	99.4%	Spastic paraplegia 18, autosomal recessive, 611225
ESCO2	100.0%	100.0%	100.0%	98.8%	Juberg-Hayward syndrome, 216100 Roberts-SC phocomelia syndrome, 268300
ESPN	100.0%	100.0%	100.0%	99.1%	Deafness, neurosensory, without vestibular involvement, autosomal dominant, 609006 Deafness, autosomal recessive 36, 609006 ?Usher syndrome, type 1M, 618632
ESR1	100.0%	99.8%	100.0%	99.4%	Breast cancer, somatic, 114480 Estrogen resistance, 615363
ESRRB	100.0%	100.0%	100.0%	99.9%	Deafness, autosomal recessive 35, 608565
ETFA	100.0%	100.0%	100.0%	99.0%	Glutaric acidemia IIA, 231680
ETFB	100.0%	100.0%	100.0%	99.9%	Glutaric acidemia IIB, 231680
ETFDH	100.0%	100.0%	100.0%	99.1%	Glutaric acidemia IIC, 231680
ETHE1	100.0%	100.0%	100.0%	99.3%	Ethylmalonic encephalopathy, 602473
EVC	100.0%	99.9%	100.0%	99.3%	Ellis-van Creveld syndrome, 225500 ?Weyers acrofacial dysostosis, 193530
EVC2	100.0%	100.0%	100.0%	99.5%	Ellis-van Creveld syndrome, 225500 Weyers acrofacial dysostosis, 193530
EXOC6B	100.0%	100.0%	100.0%	99.3%	Spondyloepimetaphyseal dysplasia with joint laxity, type 3, 618395
EXOSC2	100.0%	100.0%	100.0%	99.2%	Short stature, hearing loss, retinitis pigmentosa, and distinctive facies, 617763
EXOSC3	100.0%	100.0%	100.0%	99.8%	Pontocerebellar hypoplasia, type 1B, 614678
EXOSC8	100.0%	100.0%	99.9%	98.9%	Pontocerebellar hypoplasia, type 1C, 616081
EXOSC9	100.0%	100.0%	100.0%	99.3%	Pontocerebellar hypoplasia, type 1D, 618065
EXPH5	100.0%	100.0%	100.0%	99.1%	Epidermolysis bullosa simplex 4, localized or generalized intermediate, autosomal recessive, 615028
EXT2	100.0%	100.0%	100.0%	99.6%	Seizures, scoliosis, and macrocephaly syndrome, 616682 Exostoses, multiple, type 2, 133701
EXTL3	100.0%	100.0%	100.0%	99.9%	Immunoskeletal dysplasia with neurodevelopmental abnormalities, 617425

EYS	100.0%	99.9%	100.0%	99.4%	Retinitis pigmentosa 25, 602772
F10	100.0%	100.0%	100.0%	99.5%	Factor X deficiency, 227600
F11	100.0%	100.0%	100.0%	99.2%	Factor XI deficiency, autosomal dominant, 612416 Factor XI deficiency, autosomal recessive, 612416
F12	100.0%	100.0%	100.0%	99.9%	Angioedema, hereditary, 3, 610618 Factor XII deficiency, 234000
F13A1	100.0%	100.0%	100.0%	99.8%	Factor XIIIA deficiency, 613225
F13B	99.8%	98.6%	100.0%	99.7%	Factor XIIIB deficiency, 613235
F2	100.0%	100.0%	100.0%	99.7%	Hypoprothrombinemia, 613679 Dysprothrombinemia, 613679 Thrombophilia 1 due to thrombin defect, 188050
F5	100.0%	100.0%	100.0%	99.1%	Thrombophilia 2 due to activated protein C resistance, 188055 Factor V deficiency, 227400
F7	100.0%	100.0%	100.0%	99.7%	Factor VII deficiency, 227500
FA2H	100.0%	100.0%	100.0%	99.8%	Spastic paraplegia 35, autosomal recessive, 612319
FADD	100.0%	100.0%	100.0%	99.2%	Immunodeficiency 90 with encephalopathy, functional hyposplenia, and hepatic dysfunction, 613759
FAH	100.0%	100.0%	100.0%	99.5%	Tyrosinemia, type I, 276700
FAM126A	100.0%	100.0%	100.0%	99.7%	Leukodystrophy, hypomyelinating, 5, 610532
FAM161A	100.0%	100.0%	100.0%	98.9%	Retinitis pigmentosa 28, 606068
FAM20A	100.0%	100.0%	100.0%	99.5%	Amelogenesis imperfecta, type IG (enamel-renal syndrome), 204690
FAM20C	100.0%	100.0%	100.0%	99.7%	Raine syndrome, 259775
FAN1	100.0%	100.0%	99.8%	98.0%	Interstitial nephritis, karyomegalic, 614817
FANCA	100.0%	100.0%	100.0%	99.5%	Fanconi anemia, complementation group A, 227650
FANCB	100.0%	100.0%	98.0%	71.0%	Fanconi anemia, complementation group B, 300514
FANCC	100.0%	100.0%	100.0%	99.6%	Fanconi anemia, complementation group C, 227645
FANCD2	100.0%	100.0%	100.0%	99.1%	Fanconi anemia, complementation group D2, 227646
FANCE	100.0%	100.0%	100.0%	99.6%	Fanconi anemia, complementation group E, 600901
FANCF	100.0%	100.0%	100.0%	99.3%	Fanconi anemia, complementation group F, 603467
FANCG	100.0%	100.0%	100.0%	98.4%	Fanconi anemia, complementation group G, 614082
FANCI	100.0%	100.0%	100.0%	99.2%	Fanconi anemia, complementation group I, 609053
FANCL	100.0%	100.0%	100.0%	99.3%	Fanconi anemia, complementation group L, 614083
FAR1	100.0%	100.0%	100.0%	99.6%	Peroxisomal fatty acyl-CoA reductase 1 disorder, 616154 Cataracts, spastic paraparesis, and speech delay, 619338
FARS2	100.0%	100.0%	100.0%	99.4%	Combined oxidative phosphorylation deficiency 14, 614946 Spastic paraplegia 77, autosomal recessive, 617046

FARSB	100.0%	100.0%	100.0%	99.3%	Rajab interstitial lung disease with brain calcifications 1, 613658
FASTKD2	100.0%	100.0%	100.0%	98.4%	Combined oxidative phosphorylation deficiency 44, 618855
FAT4	99.9%	99.8%	100.0%	99.5%	Van Maldergem syndrome 2, 615546 Hennekam lymphangiectasia-lymphedema syndrome 2, 616006
FBLN5	91.8%	91.8%	100.0%	99.6%	Cutis laxa, autosomal recessive, type IA, 219100 Charcot-Marie-Tooth disease, demyelinating, type 1H, 619764 Macular degeneration, age-related, 3, 608895 Neuropathy, hereditary, w/wo age-related macular degeneration, 608895 ?Cutis laxa, autosomal dominant 2, 614434
FBP1	100.0%	100.0%	100.0%	99.7%	Fructose-1,6-bisphosphatase deficiency, 229700
FBXL3	100.0%	100.0%	100.0%	99.6%	Intellectual developmental disorder with short stature, facial anomalies, and speech defects, 606220
FBXL4	100.0%	100.0%	100.0%	99.8%	Mitochondrial DNA depletion syndrome 13 (encephalomyopathic type), 615471
FBXO31	100.0%	100.0%	100.0%	99.5%	?Intellectual developmental disorder, autosomal recessive 45, 615979
FBXO7	100.0%	100.0%	100.0%	99.3%	Parkinson disease 15, autosomal recessive, 260300
FCGR3A	100.0%	100.0%	100.0%	99.2%	Immunodeficiency 20, 615707
FCN3	100.0%	100.0%	100.0%	99.6%	Immunodeficiency due to ficolin 3 deficiency, 613860
FCSK	100.0%	100.0%	100.0%	99.9%	Congenital disorder of glycosylation with defective fucosylation 2, 618324
FDFT1	100.0%	100.0%	100.0%	99.4%	Squalene synthase deficiency, 618156
FDX2	100.0%	100.0%	100.0%	99.2%	Mitochondrial myopathy, episodic, with optic atrophy and reversible leukoencephalopathy, 251900
FDXR	100.0%	100.0%	100.0%	99.8%	Auditory neuropathy and optic atrophy, 617717
FECH	100.0%	100.0%	100.0%	99.6%	Protoporphyria, erythropoietic, 1, 177000
FERMT1	100.0%	100.0%	100.0%	99.2%	Kindler syndrome, 173650
FERMT3	100.0%	100.0%	100.0%	99.6%	Leukocyte adhesion deficiency, type III, 612840
FEZF1	100.0%	100.0%	100.0%	99.0%	Hypogonadotropic hypogonadism 22, w/wo anosmia, 616030
FGA	100.0%	100.0%	100.0%	99.0%	Hypodysfibrinogenemia, congenital, 616004 Dysfibrinogenemia, congenital, 616004 Amyloidosis, familial visceral, 105200 Afibrinogenemia, congenital, 202400
FGB	100.0%	100.0%	100.0%	99.5%	Hypofibrinogenemia, congenital, 202400 Dysfibrinogenemia, congenital, 616004 Afibrinogenemia, congenital, 202400
FGD4	100.0%	100.0%	100.0%	99.0%	Charcot-Marie-Tooth disease, type 4H, 609311
FGF20	100.0%	100.0%	100.0%	99.8%	?Renal hypodysplasia/aplasia 2, 615721
FGF23	100.0%	100.0%	99.9%	99.6%	Tumoral calcinosis, hyperphosphatemic, familial, 2, 617993 Hypophosphatemic rickets, autosomal dominant, 193100

FGF3	100.0%	100.0%	100.0%	98.8%	Deafness, congenital with inner ear agenesis, microtia, and microdontia, 610706
FGG	100.0%	100.0%	100.0%	99.3%	Dysfibrinogenemia, congenital, 616004 Hypodysfibrinogenemia, 616004 Hypofibrinogenemia, congenital, 202400 Afibrinogenemia, congenital, 202400
FH	100.0%	100.0%	100.0%	99.2%	Leiomyomatosis and renal cell cancer, 150800 Fumarase deficiency, 606812
FIBP	100.0%	100.0%	100.0%	99.8%	Thauvin-Robinet-Faivre syndrome, 617107
FIG4	100.0%	100.0%	100.0%	99.5%	Yunis-Varon syndrome, 216340 ?Polymicrogyria, bilateral temporooccipital, 612691 Amyotrophic lateral sclerosis 11, 612577 Charcot-Marie-Tooth disease, type 4J, 611228
FITM2	100.0%	100.0%	100.0%	99.5%	Siddiqi syndrome, 618635
FKBP10	100.0%	100.0%	100.0%	99.5%	Osteogenesis imperfecta, type XI, 610968 Bruck syndrome 1, 259450
FKBP14	100.0%	100.0%	100.0%	99.8%	Ehlers-Danlos syndrome, kyphoscoliotic type, 2, 614557
FKRP	100.0%	100.0%	100.0%	99.9%	Muscular dystrophy-dystroglycanopathy (congenital w/wo impaired intellectual development), type B, 5, 606612 Muscular dystrophy-dystroglycanopathy (limb-girdle), type C, 5, 607155 Muscular dystrophy-dystroglycanopathy (congenital with brain and eye anomalies), type A, 5, 613153
FKTN	100.0%	100.0%	100.0%	99.3%	Muscular dystrophy-dystroglycanopathy (limb-girdle), type C, 4, 611588 Muscular dystrophy-dystroglycanopathy (congenital with brain and eye anomalies), type A, 4, 253800 Cardiomyopathy, dilated, 1X, 611615 Muscular dystrophy-dystroglycanopathy (congenital without impaired intellectual development), type B, 4, 613152
FLAD1	100.0%	100.0%	100.0%	99.8%	Lipid storage myopathy due to flavin adenine dinucleotide synthetase deficiency, 255100
FLNB	100.0%	100.0%	100.0%	99.6%	Larsen syndrome, 150250 Atelosteogenesis, type I, 108720 Atelosteogenesis, type III, 108721 Spondylocarpotarsal synostosis syndrome, 272460 Boomerang dysplasia, 112310
FLVCR1	100.0%	100.0%	100.0%	99.7%	Ataxia, posterior column, with retinitis pigmentosa, 609033
FLVCR2	100.0%	100.0%	100.0%	99.6%	Proliferative vasculopathy and hydranencephaly-hydrocephaly syndrome, 225790

FMN2	100.0%	99.8%	99.4%	93.8%	Intellectual developmental disorder, autosomal recessive 47, 616193
FMO3	100.0%	100.0%	100.0%	99.9%	Trimethylaminuria, 602079
FOLR1	100.0%	100.0%	100.0%	99.9%	Neurodegeneration due to cerebral folate transport deficiency, 613068
FOXE1	100.0%	100.0%	100.0%	99.2%	Bamforth-Lazarus syndrome, 241850
FOXE3	100.0%	99.4%	100.0%	98.8%	Anterior segment dysgenesis 2, multiple subtypes, 610256 Cataract 34, multiple types, 612968
FOXI1	100.0%	100.0%	100.0%	99.8%	Enlarged vestibular aqueduct, 600791
FOXN1	100.0%	100.0%	100.0%	99.7%	T-cell lymphopenia, infantile, w/wo nail dystrophy, autosomal dominant, 618806 T-cell immunodeficiency, congenital alopecia, and nail dystrophy, 601705
FOXRED1	100.0%	100.0%	100.0%	99.4%	Mitochondrial complex I deficiency, nuclear type 19, 618241
FRAS1	100.0%	99.9%	100.0%	99.6%	Fraser syndrome 1, 219000
FREM1	100.0%	100.0%	100.0%	99.6%	Manitoba oculotrichoanal syndrome, 248450 Bifid nose w/wo anorectal and renal anomalies, 608980 Trigonocephaly 2, 614485
FREM2	99.9%	99.7%	100.0%	99.6%	Fraser syndrome 2, 617666 Cryptophthalmos, unilateral or bilateral, isolated, 123570
FRRS1L	100.0%	100.0%	100.0%	96.7%	Developmental and epileptic encephalopathy 37, 616981
FSHB	98.7%	98.0%	100.0%	100.0%	Hypogonadotropic hypogonadism 24 without anosmia, 229070
FSHR	100.0%	99.9%	100.0%	99.7%	Ovarian response to FSH stimulation, 276400 Ovarian hyperstimulation syndrome, 608115 Ovarian dysgenesis 1, 233300
FTCD	100.0%	100.0%	99.9%	99.1%	Glutamate formiminotransferase deficiency, 229100
FTO	94.5%	94.5%	100.0%	99.4%	Growth retardation, developmental delay, facial dysmorphism, 612938
FUCA1	100.0%	100.0%	100.0%	99.4%	Fucosidosis, 230000
FUT8	100.0%	99.8%	100.0%	99.3%	Congenital disorder of glycosylation with defective fucosylation 1, 618005
FXN	100.0%	100.0%	100.0%	99.0%	Friedreich ataxia with retained reflexes, 229300 Friedreich ataxia, 229300
FYCO1	100.0%	100.0%	100.0%	99.8%	Cataract 18, autosomal recessive, 610019
FZD6	100.0%	100.0%	100.0%	99.5%	Nail disorder, nonsyndromic congenital, 1, 161050
G6PC	100.0%	100.0%	100.0%	99.5%	Glycogen storage disease Ia, 232200
G6PC3	100.0%	100.0%	100.0%	99.8%	Dursun syndrome, 612541 Neutropenia, severe congenital 4, autosomal recessive, 612541
GAA	100.0%	100.0%	100.0%	100.0%	Glycogen storage disease II, 232300
GAD1	100.0%	100.0%	100.0%	99.3%	Developmental and epileptic encephalopathy 89, 619124
GALC	100.0%	100.0%	100.0%	99.7%	Krabbe disease, 245200

GALE	100.0%	100.0%	100.0%	99.8%	Galactose epimerase deficiency, 230350
GALK1	100.0%	100.0%	100.0%	99.6%	Galactokinase deficiency with cataracts, 230200
GALNS	100.0%	100.0%	100.0%	99.7%	Mucopolysaccharidosis IVA, 253000
GALNT2	100.0%	100.0%	100.0%	99.3%	Congenital disorder of glycosylation, type IIt, 618885
GALNT3	100.0%	100.0%	100.0%	98.8%	Tumoral calcinosis, hyperphosphatemic, familial, 1, 211900
GALT	100.0%	100.0%	100.0%	99.6%	Galactosemia, 230400
GAMT	100.0%	100.0%	100.0%	99.6%	Cerebral creatine deficiency syndrome 2, 612736
GAN	100.0%	100.0%	100.0%	99.5%	Giant axonal neuropathy-1, 256850
GAS8	100.0%	100.0%	100.0%	99.8%	Ciliary dyskinesia, primary, 33, 616726
GATM	100.0%	100.0%	100.0%	99.6%	Cerebral creatine deficiency syndrome 3, 612718 Fanconi renotubular syndrome 1, 134600
GBA	100.0%	100.0%	100.0%	99.6%	Gaucher disease, type II, 230900 Gaucher disease, type IIIC, 231005 Gaucher disease, type III, 231000 Gaucher disease, type I, 230800 Gaucher disease, perinatal lethal, 608013
GBA2	100.0%	100.0%	100.0%	99.5%	Spastic paraplegia 46, autosomal recessive, 614409
GBE1	100.0%	99.9%	100.0%	99.4%	Glycogen storage disease IV, 232500 Polyglucosan body disease, adult form, 263570
GCDH	100.0%	100.0%	100.0%	99.9%	Glutaricaciduria, type I, 231670
GCH1	100.0%	100.0%	100.0%	99.5%	Dystonia, DOPA-responsive, 128230 Hyperphenylalaninemia, BH4-deficient, B, 233910
GCK	100.0%	100.0%	100.0%	99.7%	MODY, type II, 125851 Diabetes mellitus, permanent neonatal 1, 606176 Hyperinsulinemic hypoglycemia, familial, 3, 602485 Diabetes mellitus, noninsulin-dependent, late onset, 125853
GCLC	100.0%	100.0%	100.0%	99.1%	Hemolytic anemia due to gamma-glutamylcysteine synthetase deficiency, 230450
GCNT2	100.0%	100.0%	100.0%	98.7%	Adult i phenotype without cataract, 110800 Cataract 13 with adult i phenotype, 116700
GCSH	100.0%	100.0%	100.0%	99.3%	Multiple mitochondrial dysfunctions syndrome 7, 620423
GDAP1	100.0%	100.0%	100.0%	99.3%	Charcot-Marie-Tooth disease, axonal, with vocal cord paresis, 607706 Charcot-Marie-Tooth disease, recessive intermediate, A, 608340 Charcot-Marie-Tooth disease, axonal, type 2K, 607831 Charcot-Marie-Tooth disease, type 4A, 214400
GDAP2	100.0%	99.8%	100.0%	99.2%	Spinocerebellar ataxia, autosomal recessive 27, 618369

GDF1	100.0%	100.0%	100.0%	99.9%	Congenital heart defects, multiple types, 6, 613854 Right atrial isomerism (Ivemark), 208530
GDF5	100.0%	100.0%	100.0%	99.8%	Acromesomelic dysplasia 2A, 200700 Acromesomelic dysplasia 2B, 228900 Multiple synostoses syndrome 2, 610017 Symphalangism, proximal, 1B, 615298 Brachydactyly, type A2, 112600 ?Acromesomelic dysplasia 2C, Hunter-Thompson type, 201250 Brachydactyly, type C, 113100 Brachydactyly, type A1, C, 615072
GEMIN4	100.0%	100.0%	100.0%	99.6%	Neurodevelopmental disorder with microcephaly, cataracts, and renal abnormalities, 617913
GFER	100.0%	100.0%	100.0%	99.8%	Myopathy, mitochondrial progressive, with congenital cataract and developmental delay, 613076
GFM1	100.0%	100.0%	100.0%	99.3%	Combined oxidative phosphorylation deficiency 1, 609060
GFM2	100.0%	100.0%	100.0%	99.3%	Combined oxidative phosphorylation deficiency 39, 618397
GFPT1	100.0%	100.0%	100.0%	99.6%	Myasthenia, congenital, 12, with tubular aggregates, 610542
GGCX	100.0%	100.0%	100.0%	99.5%	Vitamin K-dependent clotting factors, combined deficiency of, 1, 277450 Pseudoxanthoma elasticum-like disorder with multiple coagulation factor deficiency, 610842
GGT1	100.0%	100.0%	100.0%	99.2%	?Glutathioninuria, 231950
GH1	100.0%	100.0%	100.0%	100.0%	Kowarski syndrome, 262650 Growth hormone deficiency, isolated, type II, 173100 Growth hormone deficiency, isolated, type IB, 612781 Growth hormone deficiency, isolated, type IA, 262400
GHR	99.8%	99.8%	99.8%	98.8%	Laron dwarfism, 262500 Increased responsiveness to growth hormone, 604271 Growth hormone insensitivity, partial, 604271
GHRHR	100.0%	100.0%	100.0%	99.4%	Growth hormone deficiency, isolated, type IV, 618157
GHSR	100.0%	100.0%	100.0%	99.7%	Growth hormone deficiency, isolated partial, 615925
GINS1	100.0%	100.0%	100.0%	99.8%	Immunodeficiency 55, 617827
GIPC3	100.0%	100.0%	100.0%	98.9%	Deafness, autosomal recessive 15, 601869
GJA1	100.0%	100.0%	100.0%	99.3%	Erythrokeratodermia variabilis et progressiva 3, 617525 Craniometaphyseal dysplasia, autosomal recessive, 218400 Oculodentodigital dysplasia, 164200 Palmoplantar keratoderma with congenital alopecia, 104100 Syndactyly, type III, 186100 Oculodentodigital dysplasia, autosomal recessive, 257850

GJB2	100.0%	100.0%	100.0%	99.7%	Keratoderma, palmoplantar, with deafness, 148350 Deafness, autosomal recessive 1A, 220290 Deafness, autosomal dominant 3A, 601544 Hystrix-like ichthyosis with deafness, 602540 Bart-Pumphrey syndrome, 149200 Keratitis-ichthyosis-deafness syndrome, 148210 Vohwinkel syndrome, 124500
GJB6	100.0%	100.0%	100.0%	99.8%	Ectodermal dysplasia 2, Clouston type, 129500 Deafness, autosomal dominant 3B, 612643 Deafness, autosomal recessive 1B, 612645 Deafness, digenic GJB2/GJB6, 220290
GJC2	99.8%	98.7%	100.0%	98.6%	Lymphatic malformation 3, 613480 ?Spastic paraplegia 44, autosomal recessive, 613206 Leukodystrophy, hypomyelinating, 2, 608804
GLB1	100.0%	100.0%	100.0%	99.6%	GM1-gangliosidosis, type I, 230500 GM1-gangliosidosis, type III, 230650 Mucopolysaccharidosis type IVB (Morquio), 253010 GM1-gangliosidosis, type II, 230600
GLDC	100.0%	100.0%	100.0%	99.6%	Glycine encephalopathy1, 605899
GLDN	100.0%	100.0%	100.0%	99.5%	Lethal congenital contracture syndrome 11, 617194
GLE1	100.0%	100.0%	100.0%	99.4%	Lethal congenital contracture syndrome 1, 253310 Congenital arthrogryposis with anterior horn cell disease, 611890
GLIS2	100.0%	100.0%	100.0%	99.9%	Nephronophthisis 7, 611498
GLIS3	100.0%	100.0%	100.0%	99.4%	Diabetes mellitus, neonatal, with congenital hypothyroidism, 610199
GLRA1	100.0%	100.0%	100.0%	99.7%	Hyperekplexia 1, 149400
GLRB	100.0%	100.0%	100.0%	99.2%	Hyperekplexia 2, 614619
GLRX5	100.0%	100.0%	100.0%	99.6%	Anemia, sideroblastic, 3, pyridoxine-refractory, 616860 Spasticity, childhood-onset, with hyperglycinemia, 616859
GLS	100.0%	100.0%	100.0%	99.7%	Global developmental delay, progressive ataxia, and elevated glutamine, 618412 ?Infantile cataract, skin abnormalities, glutamate excess, and impaired intellectual development, 618339 Developmental and epileptic encephalopathy 71, 618328
GLUL	100.0%	100.0%	100.0%	99.8%	Glutamine deficiency, congenital, 610015
GLYCTK	100.0%	100.0%	100.0%	99.7%	D-glyceric aciduria, 220120
GM2A	100.0%	100.0%	100.0%	99.8%	GM2-gangliosidosis, AB variant, 272750

GMPPA	100.0%	100.0%	100.0%	99.6%	Alacrima, achalasia, and impaired intellectual development syndrome, 615510
GMPPB	100.0%	100.0%	100.0%	99.8%	Muscular dystrophy-dystroglycanopathy (limb-girdle), type C, 14, 615352 Muscular dystrophy-dystroglycanopathy (congenital with impaired intellectual development), type B, 14, 615351 Muscular dystrophy-dystroglycanopathy (congenital with brain and eye anomalies), type A, 14, 615350
GNAT2	100.0%	100.0%	100.0%	99.4%	Achromatopsia 4, 613856
GNB3	100.0%	100.0%	100.0%	99.5%	Night blindness, congenital stationary, type 1H, 617024
GNB5	100.0%	100.0%	100.0%	99.2%	Lodder-Merla syndrome, type 2, with developmental delay and w/wo cardiac arrhythmia, 617182 Lodder-Merla syndrome, type 1, with impaired intellectual development and cardiac arrhythmia, 617173
GNE	100.0%	100.0%	100.0%	99.6%	Sialuria, 269921 Nonaka myopathy, 605820
GNMT	100.0%	100.0%	100.0%	98.5%	Glycine N-methyltransferase deficiency, 606664
GNPAT	100.0%	100.0%	100.0%	99.2%	Rhizomelic chondrodysplasia punctata, type 2, 222765
GNPTAB	100.0%	100.0%	100.0%	99.1%	Mucolipidosis III alpha/beta, 252600 Mucolipidosis II alpha/beta, 252500
GNPTG	100.0%	100.0%	100.0%	99.6%	Mucolipidosis III gamma, 252605
GNRHR	100.0%	100.0%	100.0%	99.8%	Hypogonadotropic hypogonadism 7 without anosmia, 146110
GNS	100.0%	100.0%	100.0%	99.9%	Mucopolysaccharidosis type IIID, 252940
GORAB	100.0%	100.0%	100.0%	99.2%	Geroderma osteodysplasticum, 231070
GOSR2	100.0%	100.0%	100.0%	99.4%	Epilepsy, progressive myoclonic 6, 614018 Muscular dystrophy, congenital, w/wo seizures, 620166
GP1BA	100.0%	100.0%	99.6%	95.9%	Bernard-Soulier syndrome, type A1 (recessive), 231200 Bernard-Soulier syndrome, type A2 (dominant), 153670 von Willebrand disease, platelet-type, 177820
GP1BB	100.0%	100.0%	100.0%	100.0%	Giant platelet disorder, isolated, 231200 Bernard-Soulier syndrome, type B, 231200
GP6	99.1%	96.2%	100.0%	99.9%	Bleeding disorder, platelet-type, 11, 614201
GP9	100.0%	100.0%	100.0%	99.8%	Bernard-Soulier syndrome, type C, 231200
GPAA1	100.0%	100.0%	100.0%	99.9%	Glycosylphosphatidylinositol biosynthesis defect 15, 617810
GPC6	99.9%	99.5%	100.0%	99.6%	Omodysplasia 1, 258315
GPD1	100.0%	100.0%	100.0%	99.6%	Hypertriglyceridemia, transient infantile, 614480
GPHN	100.0%	99.9%	100.0%	99.3%	Molybdenum cofactor deficiency C, 615501

GPI	100.0%	100.0%	100.0%	99.6%	Hemolytic anemia, nonspherocytic, due to glucose phosphate isomerase deficiency, 613470
GPIHBP1	100.0%	100.0%	100.0%	99.4%	Hyperlipoproteinemia, type 1D, 615947
GPNMB	95.1%	95.1%	100.0%	99.5%	Amyloidosis, primary localized cutaneous, 3, 617920
GPR179	100.0%	100.0%	100.0%	99.5%	Night blindness, congenital stationary (complete), 1E, autosomal recessive, 614565
GPSM2	100.0%	100.0%	100.0%	99.5%	Chudley-McCullough syndrome, 604213
GPT2	100.0%	100.0%	100.0%	99.8%	Neurodevelopmental disorder with microcephaly and spastic paraplegia, 616281
GPX4	100.0%	100.0%	100.0%	99.1%	Spondylometaphyseal dysplasia, Sedaghatian type, 250220
GRAP	100.0%	100.0%	100.0%	99.4%	Deafness, autosomal recessive 114, 618456
GRHPR	100.0%	100.0%	100.0%	99.7%	Hyperoxaluria, primary, type II, 260000
GRID2	99.9%	99.9%	100.0%	99.6%	Spinocerebellar ataxia, autosomal recessive 18, 616204
GRIK2	95.7%	95.5%	100.0%	99.4%	Neurodevelopmental disorder with impaired language and ataxia and w/wo seizures, 619580 Intellectual developmental disorder, autosomal recessive 6, 611092
GRIN1	100.0%	100.0%	100.0%	99.5%	Neurodevelopmental disorder w/wo hyperkinetic movements and seizures, autosomal recessive, 617820 Developmental and epileptic encephalopathy 101, 619814 Neurodevelopmental disorder w/wo hyperkinetic movements and seizures, autosomal dominant, 614254
GRIP1	100.0%	100.0%	100.0%	99.4%	Fraser syndrome 3, 617667
GRK1	100.0%	100.0%	100.0%	99.9%	Oguchi disease-2, 613411
GRM1	100.0%	100.0%	100.0%	99.6%	Spinocerebellar ataxia, autosomal recessive 13, 614831 Spinocerebellar ataxia 44, 617691
GRM6	100.0%	100.0%	99.9%	99.5%	Night blindness, congenital stationary (complete), 1B, autosomal recessive, 257270
GRN	100.0%	100.0%	100.0%	99.8%	Aphasia, primary progressive, 607485 Frontotemporal lobar degeneration with ubiquitin-positive inclusions, 607485 Ceroid lipofuscinosis, neuronal, 11, 614706
GRXCR1	99.9%	99.3%	100.0%	99.6%	Deafness, autosomal recessive 25, 613285
GSC	100.0%	100.0%	100.0%	99.3%	Short stature, auditory canal atresia, mandibular hypoplasia, skeletal abnormalities, 602471
GSS	100.0%	100.0%	100.0%	99.7%	Hemolytic anemia due to glutathione synthetase deficiency, 231900 Glutathione synthetase deficiency, 266130
GSX2	100.0%	100.0%	100.0%	99.6%	Diencephalic-mesencephalic junction dysplasia syndrome 2, 618646
GTF2E2	100.0%	100.0%	100.0%	97.4%	Trichothiodystrophy 6, nonphotosensitive, 616943
GTF2H5	70.4%	70.3%	100.0%	99.5%	Trichothiodystrophy 3, photosensitive, 616395
GTPBP2	100.0%	100.0%	100.0%	99.3%	Jaberi-Elahi syndrome, 617988
GTPBP3	100.0%	100.0%	100.0%	99.6%	Combined oxidative phosphorylation deficiency 23, 616198

GUCY1A1	100.0%	100.0%	100.0%	99.6%	Moyamoya 6 with achalasia, 615750
GUCY2C	100.0%	100.0%	100.0%	99.1%	Diarrhea 6, 614616 Meconium ileus, 614665
GUCY2D	100.0%	100.0%	100.0%	99.4%	Cone-rod dystrophy 6, 601777 ?Choroidal dystrophy, central areolar 1, 215500 Leber congenital amaurosis 1, 204000 Night blindness, congenital stationary, type 1I, 618555
GUSB	100.0%	100.0%	100.0%	99.4%	Mucopolysaccharidosis VII, 253220
GYG1	100.0%	100.0%	100.0%	99.6%	?Glycogen storage disease XV, 613507 Polyglucosan body myopathy 2, 616199
GYS1	100.0%	100.0%	100.0%	99.6%	Glycogen storage disease 0, muscle, 611556
GYS2	100.0%	100.0%	100.0%	99.5%	Glycogen storage disease 0, liver, 240600
GZF1	100.0%	100.0%	100.0%	99.9%	Joint laxity, short stature, and myopia, 617662
H6PD	100.0%	100.0%	100.0%	99.9%	Cortisone reductase deficiency 1, 604931
HAAO	100.0%	100.0%	100.0%	99.8%	Vertebral, cardiac, renal, and limb defects syndrome 1, 617660
HACE1	100.0%	100.0%	100.0%	99.2%	Spastic paraplegia and psychomotor retardation w/wo seizures, 616756
HADH	100.0%	100.0%	100.0%	99.6%	Hyperinsulinemic hypoglycemia, familial, 4, 609975 3-hydroxyacyl-CoA dehydrogenase deficiency, 231530
HADHA	100.0%	100.0%	100.0%	99.3%	HELLP syndrome, maternal, of pregnancy, 609016 LCHAD deficiency, 609016 Mitochondrial trifunctional protein deficiency 1, 609015 Fatty liver, acute, of pregnancy, 609016
HADHB	100.0%	100.0%	100.0%	99.6%	Mitochondrial trifunctional protein deficiency 2, 620300
HAMP	100.0%	100.0%	100.0%	97.7%	Hemochromatosis, type 2B, 613313
HARS1	100.0%	100.0%	100.0%	99.2%	Charcot-Marie-Tooth disease, axonal, type 2W, 616625 Usher syndrome type 3B, 614504
HARS2	100.0%	100.0%	100.0%	99.5%	Perrault syndrome 2, 614926
HAVCR2	100.0%	100.0%	100.0%	99.7%	T-cell lymphoma, subcutaneous panniculitis-like, 618398
HAX1	100.0%	100.0%	100.0%	98.6%	Neutropenia, severe congenital 3, autosomal recessive, 610738

HBB	100.0%	100.0%	100.0%	99.9%	Methemoglobinemia, beta type, 617971 Thalassemia-beta, dominant inclusion-body, 603902 Sickle cell disease, 603903 Thalassemia, beta, 613985 Delta-beta thalassemia, 141749 Hereditary persistence of fetal hemoglobin, 141749 Erythrocytosis, familial, 6, 617980 Heinz body anemia, 140700
HELLS	100.0%	100.0%	100.0%	98.8%	Immunodeficiency-centromeric instability-facial anomalies syndrome 4, 616911
HEPACAM	100.0%	100.0%	100.0%	99.5%	Megalencephalic leukoencephalopathy with subcortical cysts 2A, 613925 Megalencephalic leukoencephalopathy with subcortical cysts 2B, remitting, w/wo impaired intellectual development, 613926
HERC1	100.0%	100.0%	100.0%	99.7%	Macrocephaly, dysmorphic facies, and psychomotor retardation, 617011
HERC2	100.0%	99.9%	100.0%	99.5%	Intellectual developmental disorder, autosomal recessive 38, 615516
HES7	100.0%	100.0%	100.0%	99.3%	Spondylocostal dysostosis 4, autosomal recessive, 613686
HESX1	100.0%	100.0%	100.0%	97.4%	Pituitary hormone deficiency, combined, 5, 182230 Septooptic dysplasia, 182230 Growth hormone deficiency with pituitary anomalies, 182230
HEXA	100.0%	100.0%	100.0%	99.8%	GM2-gangliosidosis, several forms, 272800 Tay-Sachs disease, 272800
HEXB	100.0%	100.0%	100.0%	99.0%	Sandhoff disease, infantile, juvenile, and adult forms, 268800
HFM1	100.0%	100.0%	100.0%	98.1%	Premature ovarian failure 9, 615724
HGD	100.0%	99.7%	100.0%	99.5%	Alkaptonuria, 203500
HGF	100.0%	100.0%	100.0%	99.2%	Deafness, autosomal recessive 39, 608265
HGSNAT	92.4%	92.4%	100.0%	99.6%	Mucopolysaccharidosis type IIIC (Sanfilippo C), 252930 Retinitis pigmentosa 73, 616544
HIBCH	100.0%	100.0%	100.0%	98.8%	3-hydroxyisobutryl-CoA hydrolase deficiency, 250620
HIKESHI	100.0%	100.0%	100.0%	99.3%	Leukodystrophy, hypomyelinating, 13, 616881
HINT1	100.0%	100.0%	100.0%	99.4%	Neuromyotonia and axonal neuropathy, autosomal recessive, 137200
HJV	100.0%	100.0%	100.0%	99.6%	Hemochromatosis, type 2A, 602390
HK1	100.0%	100.0%	100.0%	99.6%	Retinitis pigmentosa 79, 617460 Neuropathy, hereditary motor and sensory, Russe type, 605285 Neurodevelopmental disorder with visual defects and brain anomalies, 618547 Hemolytic anemia due to hexokinase deficiency, 235700
HLCS	100.0%	100.0%	100.0%	99.6%	Holocarboxylase synthetase deficiency, 253270

HMGCL	100.0%	100.0%	100.0%	99.3%	HMG-CoA lyase deficiency, 246450
HMGCS2	100.0%	100.0%	100.0%	99.2%	HMG-CoA synthase-2 deficiency, 605911
HMOX1	100.0%	100.0%	100.0%	99.8%	Heme oxygenase-1 deficiency, 614034
HMX1	100.0%	100.0%	100.0%	98.6%	Oculoauricular syndrome, 612109
HNMT	100.0%	100.0%	100.0%	99.1%	Intellectual developmental disorder, autosomal recessive 51, 616739
HOGA1	100.0%	100.0%	100.0%	99.7%	Hyperoxaluria, primary, type III, 613616
HOXA1	100.0%	100.0%	100.0%	99.4%	Bosley-Salih-Alorainy syndrome, 601536 Athabaskan brainstem dysgenesis syndrome, 601536
HOXA2	100.0%	100.0%	100.0%	99.6%	Microtia w/wo hearing impairment (AD), 612290 ?Microtia, hearing impairment, and cleft palate (AR), 612290
HOXB1	100.0%	100.0%	100.0%	99.7%	Facial paresis, hereditary congenital, 3, 614744
HOXC13	100.0%	100.0%	100.0%	99.8%	Ectodermal dysplasia 9, hair/nail type, 614931
HPCA	100.0%	100.0%	99.9%	98.1%	Dystonia 2, torsion, autosomal recessive, 224500
HPD	100.0%	100.0%	100.0%	99.0%	Hawkinsinuria, 140350 Tyrosinemia, type III, 276710
HPDL	100.0%	100.0%	100.0%	99.4%	Neurodevelopmental disorder with progressive spasticity and brain white matter abnormalities, 619026 Spastic paraplegia 83, autosomal recessive, 619027
HPGD	100.0%	100.0%	100.0%	99.0%	?Digital clubbing, isolated congenital, 119900 Hypertrophic osteoarthropathy, primary, autosomal recessive 1, 259100 Cranioosteoarthropathy, 259100
HPS1	100.0%	100.0%	100.0%	99.9%	Hermansky-Pudlak syndrome 1, 203300
HPS3	100.0%	100.0%	100.0%	99.2%	Hermansky-Pudlak syndrome 3, 614072
HPS4	100.0%	100.0%	100.0%	99.7%	Hermansky-Pudlak syndrome 4, 614073
HPS5	100.0%	100.0%	100.0%	99.6%	Hermansky-Pudlak syndrome 5, 614074
HPS6	100.0%	100.0%	100.0%	99.9%	Hermansky-Pudlak syndrome 6, 614075
HPSE2	100.0%	100.0%	100.0%	99.5%	Urofacial syndrome 1, 236730
HR	100.0%	100.0%	100.0%	99.7%	Atrichia with papular lesions, 209500 Alopecia universalis, 203655
HSD11B2	100.0%	100.0%	100.0%	99.3%	Apparent mineralocorticoid excess, 218030
HSD17B3	100.0%	100.0%	100.0%	99.6%	Pseudohermaphroditism, male, with gynecomastia, 264300
HSD17B4	96.6%	96.6%	100.0%	99.3%	D-bifunctional protein deficiency, 261515 Perrault syndrome 1, 233400
HSD3B2	99.6%	99.4%	100.0%	99.7%	Adrenal hyperplasia, congenital, due to 3-beta-hydroxysteroid dehydrogenase 2 deficiency, 201810
HSD3B7	100.0%	100.0%	100.0%	100.0%	Bile acid synthesis defect, congenital, 1, 607765

HSPA9	100.0%	100.0%	100.0%	99.4%	Even-plus syndrome, 616854 Anemia, sideroblastic, 4, 182170
HSPD1	100.0%	100.0%	100.0%	99.1%	Spastic paraplegia 13, autosomal dominant, 605280 Leukodystrophy, hypomyelinating, 4, 612233
HSPG2	100.0%	100.0%	100.0%	99.8%	Dyssegmental dysplasia, Silverman-Handmaker type, 224410 Schwartz-Jampel syndrome, type 1, 255800
HTRA1	100.0%	100.0%	100.0%	99.2%	CARASIL syndrome, 600142 Cerebral arteriopathy, autosomal dominant, with subcortical infarcts and leukoencephalopathy, type 2, 616779
HTRA2	100.0%	100.0%	100.0%	99.3%	3-methylglutaconic aciduria, type VIII, 617248
HYAL1	100.0%	100.0%	100.0%	99.5%	Mucopolysaccharidosis type IX, 601492
HYDIN	100.0%	100.0%	100.0%	99.3%	Ciliary dyskinesia, primary, 5, 608647
HYLS1	100.0%	100.0%	100.0%	99.9%	Hydrolethalus syndrome, 236680
IARS1	100.0%	100.0%	100.0%	99.4%	Growth retardation, impaired intellectual development, hypotonia, and hepatopathy, 617093
IARS2	100.0%	100.0%	100.0%	99.5%	Cataracts, growth hormone deficiency, sensory neuropathy, sensorineural hearing loss, and skeletal dysplasia, 616007
IBA57	100.0%	100.0%	100.0%	100.0%	Multiple mitochondrial dysfunctions syndrome 3, 615330 ?Spastic paraplegia 74, autosomal recessive, 616451
ICOS	100.0%	100.0%	100.0%	98.0%	Immunodeficiency, common variable, 1, 607594
IDH3B	100.0%	100.0%	100.0%	99.8%	Retinitis pigmentosa 46, 612572
IDUA	100.0%	100.0%	100.0%	99.9%	Mucopolysaccharidosis Is, 607016 Mucopolysaccharidosis Ih/s, 607015 Mucopolysaccharidosis Ih, 607014
IER3IP1	100.0%	100.0%	100.0%	99.6%	Microcephaly, epilepsy, and diabetes syndrome, 614231
IFNAR2	100.0%	100.0%	100.0%	99.7%	Immunodeficiency 45, 616669
IFNGR1	100.0%	100.0%	100.0%	99.4%	Immunodeficiency 27A, mycobacteriosis, AR, 209950 Immunodeficiency 27B, mycobacteriosis, AD, 615978
IFNGR2	100.0%	100.0%	100.0%	98.8%	Immunodeficiency 28, mycobacteriosis, 614889
IFT122	100.0%	100.0%	100.0%	99.6%	Cranioectodermal dysplasia 1, 218330
IFT140	100.0%	100.0%	100.0%	99.6%	Short-rib thoracic dysplasia 9 w/wo polydactyly, 266920 Retinitis pigmentosa 80, 617781
IFT172	100.0%	100.0%	100.0%	99.4%	Retinitis pigmentosa 71, 616394 Bardet-Biedl syndrome 20, 619471 Short-rib thoracic dysplasia 10 w/wo polydactyly, 615630
IFT27	100.0%	100.0%	100.0%	99.4%	Bardet-Biedl syndrome 19, 615996

IFT43	100.0%	100.0%	100.0%	99.6%	?Cranioectodermal dysplasia 3, 614099 ?Retinitis pigmentosa 81, 617871 Short-rib thoracic dysplasia 18 with polydactyly, 617866
IFT52	100.0%	100.0%	100.0%	99.3%	Short-rib thoracic dysplasia 16 w/wo polydactyly, 617102
IFT57	100.0%	100.0%	100.0%	99.7%	?Orofaciodigital syndrome XVIII, 617927
IFT74	100.0%	100.0%	100.0%	99.1%	Bardet-Biedl syndrome 22, 617119 Spermatogenic failure 58, 619585 Joubert syndrome 40, 619582
IFT80	100.0%	100.0%	100.0%	99.1%	Short-rib thoracic dysplasia 2 w/wo polydactyly, 611263
IFT81	94.9%	94.9%	100.0%	98.7%	Short-rib thoracic dysplasia 19 w/wo polydactyly, 617895
IGF1	100.0%	100.0%	100.0%	99.0%	Insulin-like growth factor I deficiency, 608747
IGF1R	100.0%	100.0%	100.0%	99.7%	Insulin-like growth factor I, resistance to, 270450
IGFALS	100.0%	100.0%	100.0%	100.0%	Acid-labile subunit, deficiency of, 615961
IGFBP7	100.0%	100.0%	100.0%	99.4%	Retinal arterial macroaneurysm with supravalvular pulmonic stenosis, 614224
IGHM	100.0%	100.0%	100.0%	99.9%	Agammaglobulinemia 1, 601495
IGHMBP2	100.0%	100.0%	100.0%	99.8%	Neuronopathy, distal hereditary motor, type VI, 604320 Charcot-Marie-Tooth disease, axonal, type 2S, 616155
IGKC	100.0%	100.0%	100.0%	99.9%	Kappa light chain deficiency, 614102
IGLL1	100.0%	100.0%	100.0%	99.8%	Agammaglobulinemia 2, 613500
IHH	100.0%	100.0%	100.0%	99.2%	Acrocapitofemoral dysplasia, 607778 Brachydactyly, type A1, 112500
IKBKB	100.0%	100.0%	100.0%	98.8%	Immunodeficiency 15B, 615592 Immunodeficiency 15A, 618204
IL10RA	100.0%	100.0%	100.0%	99.9%	Inflammatory bowel disease 28, early onset, autosomal recessive, 613148
IL10RB	100.0%	100.0%	100.0%	99.2%	Inflammatory bowel disease 25, early onset, autosomal recessive, 612567
IL11RA	100.0%	100.0%	100.0%	99.7%	Craniosynostosis and dental anomalies, 614188
IL12B	100.0%	100.0%	100.0%	99.6%	Immunodeficiency 29, mycobacteriosis, 614890
IL12RB1	94.1%	94.1%	100.0%	99.5%	Immunodeficiency 30, 614891
IL17RA	100.0%	100.0%	100.0%	99.9%	Immunodeficiency 51, 613953
IL17RC	100.0%	100.0%	100.0%	99.8%	Candidiasis, familial, 9, 616445
IL1RN	100.0%	100.0%	100.0%	99.5%	Chronic recurrent multifocal osteomyelitis 2, with periostitis and pustulosis, 612852 Interleukin 1 receptor antagonist deficiency, 612852
IL21R	100.0%	100.0%	100.0%	99.6%	Immunodeficiency 56, 615207
IL2RA	100.0%	100.0%	100.0%	99.7%	Immunodeficiency 41 with lymphoproliferation and autoimmunity, 606367
IL2RB	100.0%	100.0%	100.0%	99.7%	Immunodeficiency 63 with lymphoproliferation and autoimmunity, 618495

IL36RN	100.0%	100.0%	100.0%	99.0%	Psoriasis 14, pustular, 614204
IL6ST	100.0%	100.0%	100.0%	99.3%	Stuve-Wiedemann syndrome 2, 619751 Hyper-IgE recurrent infection syndrome 4A, autosomal dominant, 619752 ?Immunodeficiency 94 with autoinflammation and dysmorphic facies, 619750 Hyper-IgE recurrent infection syndrome 4B, autosomal recessive, 618523
IL7R	100.0%	100.0%	100.0%	99.7%	Immunodeficiency 104, severe combined, 608971
ILDR1	100.0%	100.0%	100.0%	99.8%	Deafness, autosomal recessive 42, 609646
IMPA1	100.0%	100.0%	100.0%	98.7%	Intellectual developmental disorder, autosomal recessive 59, 617323
IMPAD1	100.0%	100.0%	100.0%	99.9%	Chondrodysplasia with joint dislocations, GPAPP type, 614078
IMPG2	100.0%	100.0%	100.0%	99.1%	Retinitis pigmentosa 56, 613581 Macular dystrophy, vitelliform, 5, 616152
INPP5E	100.0%	100.0%	100.0%	99.7%	Joubert syndrome 1, 213300 Mental retardation, truncal obesity, retinal dystrophy, and micropenis, 610156
INPP5K	100.0%	100.0%	100.0%	99.6%	Muscular dystrophy, congenital, with cataracts and intellectual disability, 617404
INPPL1	100.0%	100.0%	100.0%	99.8%	Opsismodysplasia, 258480
INSR	100.0%	100.0%	100.0%	99.5%	Rabson-Mendenhall syndrome, 262190 Diabetes mellitus, insulin-resistant, with acanthosis nigricans, 610549 Donohue syndrome, 246200 Hyperinsulinemic hypoglycemia, familial, 5, 609968
INTS1	100.0%	100.0%	100.0%	99.8%	Neurodevelopmental disorder with cataracts, poor growth, and dysmorphic facies, 618571
INTS8	100.0%	100.0%	100.0%	98.2%	?Neurodevelopmental disorder with cerebellar hypoplasia and spasticity, 618572
INTU	100.0%	100.0%	100.0%	98.7%	?Orofaciodigital syndrome XVII, 617926 ?Short-rib thoracic dysplasia 20 with polydactyly, 617925
INVS	100.0%	100.0%	100.0%	99.5%	Nephronophthisis 2, infantile, 602088
IPO8	100.0%	100.0%	100.0%	99.3%	VISS syndrome, 619472
IQCB1	100.0%	100.0%	100.0%	99.5%	Senior-Loken syndrome 5, 609254
IQSEC1	100.0%	99.9%	100.0%	98.6%	Intellectual developmental disorder with short stature and behavioral abnormalities, 618687
IRAK4	100.0%	100.0%	100.0%	98.9%	Immunodeficiency 67, 607676
IREB2	100.0%	100.0%	100.0%	99.5%	Neurodegeneration, early-onset, with choreoathetoid movements and microcytic anemia, 618451
IRF7	100.0%	100.0%	100.0%	99.7%	?Immunodeficiency 39, 616345
IRF8	100.0%	100.0%	100.0%	99.4%	Immunodeficiency 32A, mycobacteriosis, autosomal dominant, 614893 Immunodeficiency 32B, monocyte and dendritic cell deficiency, autosomal recessive, 226990
IRF9	100.0%	100.0%	100.0%	99.8%	Immunodeficiency 65, susceptibility to viral infections, 618648
IRX5	100.0%	100.0%	100.0%	98.8%	Hamamy syndrome, 611174
ISCA1	92.4%	92.4%	100.0%	99.6%	Multiple mitochondrial dysfunctions syndrome 5, 617613

ISCA2	100.0%	100.0%	100.0%	99.6%	Multiple mitochondrial dysfunctions syndrome 4, 616370
ISCU	100.0%	100.0%	100.0%	99.7%	Myopathy with lactic acidosis, hereditary, 255125
ISG15	100.0%	100.0%	100.0%	100.0%	Immunodeficiency 38, 616126
ITCH	96.0%	96.0%	100.0%	99.2%	Autoimmune disease, multisystem, with facial dysmorphism, 613385
ITGA2B	100.0%	100.0%	100.0%	99.8%	Glanzmann thrombasthenia 1, 273800 Bleeding disorder, platelet-type, 16, autosomal dominant, 187800 Thrombocytopenia, neonatal alloimmune, BAK antigen related,
ITGA3	100.0%	100.0%	100.0%	99.8%	Epidermolysis bullosa, junctional 7, with interstitial lung disease and nephrotic syndrome, 614748
ITGA6	100.0%	100.0%	100.0%	99.5%	Epidermolysis bullosa, junctional 6, with pyloric atresia, 619817
ITGA7	100.0%	100.0%	100.0%	99.7%	Muscular dystrophy, congenital, due to ITGA7 deficiency, 613204
ITGA8	100.0%	100.0%	100.0%	99.3%	Renal hypodysplasia/aplasia 1, 191830
ITGB2	100.0%	100.0%	100.0%	99.9%	Leukocyte adhesion deficiency, 116920
ITGB3	100.0%	100.0%	100.0%	99.7%	Bleeding disorder, platelet-type, 24, autosomal dominant, 619271 Glanzmann thrombasthenia 2, 619267 Thrombocytopenia, neonatal alloimmune, Purpura, posttransfusion,
ITGB4	100.0%	100.0%	100.0%	99.8%	Epidermolysis bullosa, junctional 5B, with pyloric atresia, 226730 Epidermolysis bullosa, junctional 5A, intermediate, 619816
ITGB6	100.0%	100.0%	100.0%	99.6%	Amelogenesis imperfecta, type IH, 616221
ITK	100.0%	100.0%	100.0%	99.4%	Lymphoproliferative syndrome 1, 613011
ITPA	100.0%	100.0%	100.0%	99.0%	Developmental and epileptic encephalopathy 35, 616647
ITPR1	100.0%	100.0%	100.0%	99.2%	Gillespie syndrome, 206700 Spinocerebellar ataxia 29, congenital nonprogressive, 117360 Spinocerebellar ataxia 15, 606658
IVD	100.0%	100.0%	100.0%	99.8%	Isovaleric acidemia, 243500
IYD	100.0%	100.0%	100.0%	98.7%	Thyroid dyshormonogenesis 4, 274800
JAGN1	100.0%	100.0%	100.0%	99.9%	Neutropenia, severe congenital, 6, autosomal recessive, 616022
JAK3	100.0%	100.0%	100.0%	99.6%	SCID, autosomal recessive, T-negative/B-positive type, 600802
JAM2	92.2%	92.0%	100.0%	99.2%	Basal ganglia calcification, idiopathic, 8, autosomal recessive, 618824
JAM3	100.0%	100.0%	100.0%	99.8%	Hemorrhagic destruction of the brain, subependymal calcification, and cataracts, 613730
JUP	100.0%	100.0%	100.0%	99.8%	Naxos disease, 601214 ?Arrhythmogenic right ventricular dysplasia 12, 611528
KALRN	100.0%	100.0%	100.0%	99.5%	No OMIM disease ID
KANK2	100.0%	100.0%	100.0%	99.8%	Nephrotic syndrome, type 16, 617783 Palmoplantar keratoderma and woolly hair, 616099

KARS1	100.0%	100.0%	100.0%	99.4%	Deafness, autosomal recessive 89, 613916 Leukoencephalopathy, progressive, infantile-onset, w/wo deafness, 619147 ?Charcot-Marie-Tooth disease, recessive intermediate, B, 613641 Deafness, congenital, and adult-onset progressive leukoencephalopathy, 619196
KATNB1	100.0%	100.0%	100.0%	99.9%	Lissencephaly 6, with microcephaly, 616212
KCNE1	100.0%	100.0%	100.0%	100.0%	Jervell and Lange-Nielsen syndrome 2, 612347 Long QT syndrome 5, 613695
KCNJ1	100.0%	100.0%	100.0%	99.4%	Bartter syndrome, type 2, 241200
KCNJ10	100.0%	100.0%	100.0%	99.6%	Enlarged vestibular aqueduct, digenic, 600791 SESAME syndrome, 612780
KCNJ11	100.0%	100.0%	100.0%	99.9%	Diabetes, permanent neonatal 2, w/wo neurologic features, 618856 Maturity-onset diabetes of the young, type 13, 616329 Diabetes mellitus, transient neonatal 3, 610582 Hyperinsulinemic hypoglycemia, familial, 2, 601820
KCNJ13	100.0%	100.0%	100.0%	99.6%	Snowflake vitreoretinal degeneration, 193230 Leber congenital amaurosis 16, 614186
KCNMA1	100.0%	99.9%	100.0%	99.2%	Paroxysmal nonkinesigenic dyskinesia, 3, w/wo generalized epilepsy, 609446 Cerebellar atrophy, developmental delay, and seizures, 617643 Liang-Wang syndrome, 618729
KCNQ1	100.0%	100.0%	100.0%	99.6%	Short QT syndrome 2, 609621 Atrial fibrillation, familial, 3, 607554 Long QT syndrome 1, 192500 Jervell and Lange-Nielsen syndrome, 220400
KCNV2	100.0%	100.0%	100.0%	100.0%	Retinal cone dystrophy 3B, 610356
KCTD7	100.0%	100.0%	100.0%	99.9%	Epilepsy, progressive myoclonic 3, w/wo intracellular inclusions, 611726
KDM5B	97.5%	96.3%	100.0%	99.4%	Intellectual developmental disorder, autosomal recessive 65, 618109
KERA	100.0%	100.0%	100.0%	98.2%	Cornea plana 2, autosomal recessive, 217300
KHDC3L	100.0%	100.0%	100.0%	99.5%	Hydatidiform mole, recurrent, 2, 614293
KIAA0556	100.0%	100.0%	100.0%	99.6%	Joubert syndrome 26, 616784
KIAA0586	95.6%	95.5%	100.0%	99.0%	Short-rib thoracic dysplasia 14 with polydactyly, 616546 Joubert syndrome 23, 616490
KIAA0753	100.0%	100.0%	100.0%	99.4%	?Orofaciodigital syndrome XV, 617127 ?Joubert syndrome 38, 619476 Short-rib thoracic dysplasia 21 without polydactyly, 619479
KIAA1109	100.0%	99.9%	100.0%	99.4%	Alkuraya-Kucinskas syndrome, 617822

KIAA1549	99.9%	99.7%	100.0%	99.4%	Retinitis pigmentosa 86, 618613
KIF14	100.0%	100.0%	100.0%	98.9%	Microcephaly 20, primary, autosomal recessive, 617914 ?Meckel syndrome 12, 616258
KIF1A	100.0%	100.0%	100.0%	99.8%	NESCAV syndrome, 614255 Neuropathy, hereditary sensory, type IIC, 614213 Spastic paraplegia 30, autosomal dominant, 610357 Spastic paraplegia 30, autosomal recessive, 610357
KIF1C	100.0%	100.0%	100.0%	99.8%	Spastic ataxia 2, autosomal recessive, 611302
KIF7	100.0%	99.9%	100.0%	99.4%	Joubert syndrome 12, 200990 Acrocallosal syndrome, 200990 ?Hydrolethalus syndrome 2, 614120 ?Al-Gazali-Bakalinova syndrome, 607131
KIFBP	95.6%	95.6%	100.0%	99.4%	Goldberg-Shprintzen megacolon syndrome, 609460
KISS1R	100.0%	100.0%	100.0%	99.9%	Hypogonadotropic hypogonadism 8 w/wo anosmia, 614837 ?Precocious puberty, central, 1, 176400
KIZ	100.0%	100.0%	100.0%	99.2%	Retinitis pigmentosa 69, 615780
KL	99.8%	99.2%	99.9%	98.7%	?Tumoral calcinosis, hyperphosphatemic, familial, 3, 617994
KLC2	100.0%	100.0%	100.0%	100.0%	Spastic paraplegia, optic atrophy, and neuropathy, 609541
KLHL3	100.0%	100.0%	100.0%	99.8%	Pseudohypoaldosteronism, type IID, 614495
KLHL40	100.0%	100.0%	100.0%	99.7%	Nemaline myopathy 8, autosomal recessive, 615348
KLHL41	100.0%	100.0%	100.0%	99.2%	Nemaline myopathy 9, 615731
KLHL7	100.0%	100.0%	100.0%	99.5%	Retinitis pigmentosa 42, 612943 PERCHING syndrome, 617055
KLK4	100.0%	100.0%	100.0%	99.6%	Amelogenesis imperfecta, type IIA1, 204700
KLKB1	100.0%	100.0%	100.0%	99.4%	Fletcher factor (prekallikrein) deficiency, 612423
KMT2B	99.8%	99.5%	99.9%	98.2%	Intellectual developmental disorder, autosomal dominant 68, 619934 Dystonia 28, childhood-onset, 617284
KNL1	98.7%	98.7%	100.0%	99.4%	Microcephaly 4, primary, autosomal recessive, 604321
KPTN	100.0%	100.0%	99.9%	99.2%	Intellectual developmental disorder, autosomal recessive 41, 615637
KRT10	100.0%	100.0%	100.0%	96.7%	Ichthyosis, annular epidermolytic 1, 607602 Epidermolytic hyperkeratosis 2, 620150 ?Ichthyosis histrix, Lambert type, 146600 Ichthyosis with confetti, 609165

KRT14	100.0%	100.0%	100.0%	99.7%	Epidermolysis bullosa simplex 1D, generalized, intermediate or severe, autosomal recessive, 601001 Epidermolysis bullosa simplex 1C, localized, 131800 Dermatopathia pigmentosa reticularis, 125595 Epidermolysis bullosa simplex 1A, generalized severe, 131760 Naegeli-Franceschetti-Jadassohn syndrome, 161000 Epidermolysis bullosa simplex 1B, generalized intermediate, 131900
KRT18	100.0%	100.0%	100.0%	99.7%	Cirrhosis, cryptogenic, 215600
KRT5	100.0%	100.0%	100.0%	99.7%	Epidermolysis bullosa simplex 2A, generalized severe, 619555 Dowling-Degos disease 1, 179850 Epidermolysis bullosa simplex 2F, with mottled pigmentation, 131960 Epidermolysis bullosa simplex 2D, generalized, intermediate or severe, autosomal recessive, 619599 Epidermolysis bullosa simplex 2B, generalized intermediate, 619588 Epidermolysis bullosa simplex 2C, localized, 619594 Epidermolysis bullosa simplex 2E, with migratory circinate erythema, 609352
KRT8	100.0%	100.0%	100.0%	99.7%	No OMIM disease ID
KRT85	100.0%	100.0%	100.0%	99.7%	Ectodermal dysplasia 4, hair/nail type, 602032
KY	100.0%	100.0%	100.0%	99.7%	Myopathy, myofibrillar, 7, 617114
KYNU	100.0%	100.0%	100.0%	98.6%	?Hydroxykynureninuria, 236800 Vertebral, cardiac, renal, and limb defects syndrome 2, 617661
L2HGDH	100.0%	100.0%	100.0%	99.4%	L-2-hydroxyglutaric aciduria, 236792
LAMA1	100.0%	100.0%	100.0%	99.6%	Poretti-Boltshauser syndrome, 615960
LAMA2	99.8%	99.5%	100.0%	99.5%	Muscular dystrophy, limb-girdle, autosomal recessive 23, 618138 Muscular dystrophy, congenital, merosin deficient or partially deficient, 607855
LAMA3	100.0%	100.0%	100.0%	99.4%	Epidermolysis bullosa, junctional 2A, intermediate, 619783 Epidermolysis bullosa, junctional 2C, laryngoonychocutaneous, 245660 Epidermolysis bullosa, junctional 2B, severe, 619784
LAMB1	100.0%	100.0%	100.0%	99.4%	Lissencephaly 5, 615191
LAMB2	100.0%	100.0%	100.0%	99.9%	Nephrotic syndrome, type 5, w/wo ocular abnormalities, 614199 Pierson syndrome, 609049
LAMB3	100.0%	100.0%	100.0%	99.7%	Epidermolysis bullosa, junctional 1B, severe, 226700 Epidermolysis bullosa, junctional 1A, intermediate, 226650 Amelogenesis imperfecta, type IA, 104530

LAMC2	100.0%	100.0%	100.0%	99.7%	Epidermolysis bullosa, junctional 3B, severe, 619786 Epidermolysis bullosa, junctional 3A, intermediate, 619785
LAMC3	100.0%	100.0%	100.0%	99.6%	Cortical malformations, occipital, 614115
LAMTOR2	100.0%	100.0%	100.0%	99.9%	Immunodeficiency due to defect in MAPBP-interacting protein, 610798
LARGE1	100.0%	100.0%	100.0%	99.7%	Muscular dystrophy-dystroglycanopathy (congenital with impaired intellectual development), type B, 6, 608840 Muscular dystrophy-dystroglycanopathy (congenital with brain and eye anomalies), type A, 6, 613154
LARP7	100.0%	100.0%	100.0%	98.5%	Alazami syndrome, 615071
LARS1	100.0%	100.0%	100.0%	99.3%	?Infantile liver failure syndrome 1, 615438
LARS2	100.0%	100.0%	100.0%	99.5%	Perrault syndrome 4, 615300 Hydrops, lactic acidosis, and sideroblastic anemia, 617021
LAT	100.0%	100.0%	100.0%	99.6%	Immunodeficiency 52, 617514
LBR	100.0%	100.0%	100.0%	99.3%	Pelger-Huet anomaly, 169400 ?Reynolds syndrome, 613471 Rhizomelic skeletal dysplasia w/wo Pelger-Huet anomaly, 618019 Greenberg skeletal dysplasia, 215140
LCA5	100.0%	100.0%	100.0%	98.6%	Leber congenital amaurosis 5, 604537
LCAT	100.0%	100.0%	100.0%	99.8%	Fish-eye disease, 136120 Norum disease, 245900
LCK	100.0%	100.0%	100.0%	99.8%	?Immunodeficiency 22, 615758
LCT	100.0%	100.0%	100.0%	99.6%	Lactase deficiency, congenital, 223000
LDHA	100.0%	100.0%	100.0%	99.1%	Glycogen storage disease XI, 612933
LDHD	100.0%	100.0%	100.0%	99.9%	D-lactic aciduria with susceptibility to gout, 245450
LEMD2	100.0%	100.0%	100.0%	99.0%	Marbach-Rustad progeroid syndrome, 619322 Cataract 46, juvenile-onset, 212500
LEP	100.0%	100.0%	100.0%	99.4%	Obesity, morbid, due to leptin deficiency, 614962
LEPR	94.6%	94.6%	100.0%	99.3%	Obesity, morbid, due to leptin receptor deficiency, 614963
LFNG	99.1%	96.5%	100.0%	99.0%	Spondylocostal dysostosis 3, autosomal recessive, 609813
LGI4	100.0%	100.0%	100.0%	99.8%	Arthrogryposis multiplex congenita 1, neurogenic, with myelin defect, 617468
LHB	100.0%	100.0%	100.0%	100.0%	Hypogonadotropic hypogonadism 23 w/wo anosmia, 228300

LHCGR	100.0%	100.0%	100.0%	99.6%	Leydig cell adenoma, somatic, with precocious puberty, 176410 Leydig cell hypoplasia with pseudohermaphroditism, 238320 Leydig cell hypoplasia with hypergonadotropic hypogonadism, 238320 Luteinizing hormone resistance, female, 238320 Precocious puberty, male, 176410
LHFPL5	100.0%	100.0%	100.0%	99.6%	Deafness, autosomal recessive 67, 610265
LHX3	100.0%	100.0%	100.0%	99.8%	Pituitary hormone deficiency, combined, 3, 221750
LIAS	100.0%	100.0%	100.0%	99.7%	Hyperglycinemia, lactic acidosis, and seizures, 614462
LIFR	100.0%	100.0%	100.0%	98.9%	Stuve-Wiedemann syndrome/Schwartz-Jampel type 2 syndrome, 601559
LIG4	100.0%	100.0%	100.0%	99.4%	LIG4 syndrome, 606593
LIM2	100.0%	100.0%	100.0%	99.6%	Cataract 19, multiple types, 615277
LIMS2	100.0%	100.0%	100.0%	99.8%	?Muscular dystrophy, autosomal recessive, with cardiomyopathy and triangular tongue, 616827
LINGO1	100.0%	100.0%	100.0%	100.0%	Intellectual developmental disorder, autosomal recessive 64, 618103
LINS1	100.0%	100.0%	100.0%	98.7%	Intellectual developmental disorder, autosomal recessive 27, 614340
LIPA	96.6%	95.2%	100.0%	99.1%	Wolman disease, 620151 Cholesteryl ester storage disease, 278000
LIPE	100.0%	100.0%	100.0%	99.7%	Lipodystrophy, familial partial, type 6, 615980
LIPH	100.0%	100.0%	100.0%	99.3%	Hypotrichosis 7, 604379 Woolly hair, autosomal recessive 2 w/wo hypotrichosis, 604379
LIPN	100.0%	100.0%	100.0%	99.5%	Ichthyosis, congenital, autosomal recessive 8, 613943
LIPT1	100.0%	100.0%	100.0%	98.6%	Lipoyltransferase 1 deficiency, 616299
LIPT2	100.0%	100.0%	100.0%	99.6%	Encephalopathy, neonatal severe, with lactic acidosis and brain abnormalities, 617668
LMAN1	100.0%	100.0%	100.0%	99.2%	Combined factor V and VIII deficiency, 227300
LMAN2L	100.0%	100.0%	100.0%	99.2%	?Intellectual developmental disorder, autosomal dominant 69, 617863 ?Intellectual developmental disorder, autosomal recessive 52, 616887
LMBR1	99.9%	99.4%	100.0%	99.4%	Triphalangeal thumb, type I, 174500 Syndactyly, type IV, 186200 Laurin-Sandrow syndrome, 135750 Hypoplastic or aplastic tibia with polydactyly, 188740 Polydactyly, preaxial type II, 174500 Acheiropody, 200500 Triphalangeal thumb-polysyndactyly syndrome, 190605
LMBRD1	100.0%	99.8%	100.0%	98.6%	Methylmalonic aciduria and homocystinuria, cblF type, 277380
LMF1	100.0%	100.0%	100.0%	99.8%	Lipase deficiency, combined, 246650

LMNA	100.0%	100.0%	100.0%	99.7%	Mandibuloacral dysplasia, 248370 Heart-hand syndrome, Slovenian type, 610140 Cardiomyopathy, dilated, 1A, 115200 Emery-Dreifuss muscular dystrophy 3, autosomal recessive, 616516 Restrictive dermopathy 2, 619793 Charcot-Marie-Tooth disease, type 2B1, 605588 Emery-Dreifuss muscular dystrophy 2, autosomal dominant, 181350 Hutchinson-Gilford progeria, 176670 Lipodystrophy, familial partial, type 2, 151660 Muscular dystrophy, congenital, 613205 Malouf syndrome, 212112
LMNB2	100.0%	99.8%	100.0%	99.4%	Microcephaly 27, primary, autosomal dominant, 619180 ?Epilepsy, progressive myoclonic, 9, 616540
LMOD3	100.0%	100.0%	100.0%	98.7%	Nemaline myopathy 10, 616165
LNPK	93.1%	93.1%	100.0%	99.0%	Neurodevelopmental disorder with epilepsy and hypoplasia of the corpus callosum, 618090
LONP1	100.0%	100.0%	100.0%	99.8%	CODAS syndrome, 600373
LOXHD1	100.0%	100.0%	100.0%	99.4%	Deafness, autosomal recessive 77, 613079
LPAR6	100.0%	99.8%	100.0%	97.7%	Hypotrichosis 8, 278150 Woolly hair, autosomal recessive 1, w/wo hypotrichosis, 278150
LPIN1	100.0%	100.0%	100.0%	99.5%	Myoglobinuria, acute recurrent, autosomal recessive, 268200
LPIN2	100.0%	100.0%	100.0%	99.1%	Majeed syndrome, 609628
LPL	100.0%	100.0%	100.0%	99.5%	Lipoprotein lipase deficiency, 238600 Combined hyperlipidemia, familial, 144250
LRAT	100.0%	100.0%	100.0%	99.8%	Leber congenital amaurosis 14, 613341 Retinal dystrophy, early-onset severe, 613341 Retinitis pigmentosa, juvenile, 613341
LRBA	100.0%	99.9%	100.0%	99.3%	Immunodeficiency, common variable, 8, with autoimmunity, 614700
LRIG2	100.0%	100.0%	100.0%	99.1%	Urofacial syndrome 2, 615112
LRIT3	100.0%	100.0%	100.0%	99.6%	Night blindness, congenital stationary (complete), 1F, autosomal recessive, 615058
LRMDA	97.8%	97.8%	100.0%	99.7%	Albinism, oculocutaneous, type VII, 615179
LRP1	100.0%	100.0%	100.0%	99.9%	?Keratosis pilaris atrophicans, 604093
LRP2	100.0%	100.0%	100.0%	99.6%	Donnai-Barrow syndrome, 222448
LRP4	100.0%	100.0%	100.0%	99.7%	?Myasthenic syndrome, congenital, 17, 616304 Sclerosteosis 2, 614305 Cenani-Lenz syndactyly syndrome, 212780

LRP5	100.0%	100.0%	100.0%	99.6%	Osteopetrosis, autosomal dominant 1, 607634 Polycystic liver disease 4 w/wo kidney cysts, 617875 Endosteal hyperostosis, 144750 Osteoporosis-pseudoglioma syndrome, 259770 Exudative vitreoretinopathy 4, 601813
LRPAP1	100.0%	100.0%	100.0%	99.8%	Myopia 23, autosomal recessive, 615431
LRPPRC	100.0%	100.0%	100.0%	99.2%	Mitochondrial complex IV deficiency, nuclear type 5, (French-Canadian), 220111
LRRC56	100.0%	100.0%	100.0%	99.8%	Ciliary dyskinesia, primary, 39, 618254
LRRC6	100.0%	100.0%	100.0%	99.5%	Ciliary dyskinesia, primary, 19, 614935
LRSAM1	100.0%	100.0%	100.0%	99.8%	Charcot-Marie-Tooth disease, axonal, type 2P, 614436
LRTOMT	100.0%	100.0%	100.0%	98.5%	Deafness, autosomal recessive 63, 611451
LSS	100.0%	100.0%	100.0%	99.9%	Hypotrichosis 14, 618275 Cataract 44, 616509 Alopecia-intellectual disability syndrome 4, 618840
LTBP1	100.0%	100.0%	100.0%	99.5%	Cutis laxa, autosomal recessive, type IIE, 619451
LTBP2	100.0%	100.0%	100.0%	99.8%	Glaucoma 3, primary congenital, D, 613086 Microspherophakia and/or megalocornea, with ectopia lentis and w/wo secondary glaucoma, 251750 ?Weill-Marchesani syndrome 3, recessive, 614819
LTBP3	100.0%	100.0%	100.0%	99.5%	Dental anomalies and short stature, 601216 Geleophysic dysplasia 3, 617809
LTBP4	100.0%	100.0%	100.0%	99.7%	Cutis laxa, autosomal recessive, type IC, 613177
LTC4S	100.0%	100.0%	100.0%	99.9%	No OMIM disease ID
LYRM7	100.0%	100.0%	100.0%	98.7%	Mitochondrial complex III deficiency, nuclear type 8, 615838
LYST	100.0%	99.8%	100.0%	99.4%	Chediak-Higashi syndrome, 214500
LZTFL1	100.0%	100.0%	100.0%	98.9%	Bardet-Biedl syndrome 17, 615994
LZTR1	100.0%	100.0%	100.0%	99.8%	Noonan syndrome 2, 605275 Noonan syndrome 10, 616564
MAB21L1	100.0%	100.0%	100.0%	97.7%	Cerebellar, ocular, craniofacial, and genital syndrome, 618479
MAB21L2	100.0%	100.0%	100.0%	100.0%	Microphthalmia/coloboma and skeletal dysplasia syndrome, 615877
MADD	100.0%	100.0%	100.0%	99.6%	Neurodevelopmental disorder with dysmorphic facies, impaired speech and hypotonia, 619005 DEEAH syndrome, 619004
MAG	100.0%	100.0%	100.0%	99.3%	Spastic paraplegia 75, autosomal recessive, 616680
MAGI2	98.9%	97.3%	99.9%	96.8%	Nephrotic syndrome, type 15, 617609

MAK	100.0%	100.0%	100.0%	99.0%	Retinitis pigmentosa 62, 614181
MALT1	100.0%	100.0%	100.0%	99.4%	Immunodeficiency 12, 615468
MAN1B1	100.0%	100.0%	100.0%	99.9%	Rafiq syndrome, 614202
MAN2B1	100.0%	100.0%	100.0%	99.7%	Mannosidosis, alpha-, types I and II, 248500
MANBA	100.0%	100.0%	100.0%	99.5%	Mannosidosis, beta, 248510
MAP11	100.0%	100.0%	100.0%	99.8%	?Microcephaly 25, primary, autosomal recessive, 618351
MAP3K20	100.0%	100.0%	100.0%	99.1%	Centronuclear myopathy 6 with fiber-type disproportion, 617760 Split-foot malformation with mesoaxial polydactyly, 616890
MAPKBP1	100.0%	100.0%	100.0%	99.7%	Nephronophthisis 20, 617271
MAPT	100.0%	100.0%	100.0%	99.6%	Supranuclear palsy, progressive, 601104 Supranuclear palsy, progressive atypical, 260540 Dementia, frontotemporal, w/wo parkinsonism, 600274 Pick disease, 172700
MARS1	100.0%	100.0%	100.0%	99.6%	Spastic paraplegia 70, autosomal recessive, 620323 Interstitial lung and liver disease, 615486 ?Trichothiodystrophy 9, nonphotosensitive, 619692 Charcot-Marie-Tooth disease, axonal, type 2U, 616280
MARS2	100.0%	100.0%	100.0%	99.9%	?Combined oxidative phosphorylation deficiency 25, 616430 Spastic ataxia 3, autosomal recessive, 611390
MARVELD2	100.0%	100.0%	100.0%	99.6%	Deafness, autosomal recessive 49, 610153
MASP1	100.0%	100.0%	100.0%	99.8%	3MC syndrome 1, 257920
MAT1A	100.0%	100.0%	100.0%	99.9%	Hypermethioninemia, persistent, autosomal dominant, due to methionine adenosyltransferase I/III deficiency, 250850 Methionine adenosyltransferase deficiency, autosomal recessive, 250850
MATN3	100.0%	100.0%	100.0%	99.8%	Spondyloepimetaphyseal dysplasia, Borochowitz-Cormier-Daire type, 608728 Epiphyseal dysplasia, multiple, 5, 607078
MBOAT7	100.0%	100.0%	100.0%	99.5%	Intellectual developmental disorder, autosomal recessive 57, 617188
MBTPS1	100.0%	100.0%	100.0%	99.5%	?Spondyloepiphyseal dysplasia, Kondo-Fu type, 618392
MC2R	100.0%	100.0%	100.0%	99.5%	Glucocorticoid deficiency, due to ACTH unresponsiveness, 202200
MCCC1	100.0%	100.0%	100.0%	99.6%	3-Methylcrotonyl-CoA carboxylase 1 deficiency, 210200
MCCC2	100.0%	100.0%	100.0%	98.6%	3-Methylcrotonyl-CoA carboxylase 2 deficiency, 210210
MCEE	100.0%	100.0%	100.0%	99.7%	Methylmalonyl-CoA epimerase deficiency, 251120
MCFD2	100.0%	100.0%	100.0%	99.6%	Factor V and factor VIII, combined deficiency of, 613625
MCM3AP	100.0%	100.0%	100.0%	99.6%	Peripheral neuropathy, autosomal recessive, w/wo impaired intellectual development, 618124
MCM4	95.3%	95.3%	100.0%	99.3%	Immunodeficiency 54, 609981

MCM5	100.0%	100.0%	100.0%	99.7%	?Meier-Gorlin syndrome 8, 617564
MCM9	100.0%	100.0%	100.0%	99.1%	Ovarian dysgenesis 4, 616185
MCOLN1	100.0%	100.0%	100.0%	99.9%	Mucolipidosis IV, 252650
MCPH1	100.0%	100.0%	100.0%	99.2%	Microcephaly 1, primary, autosomal recessive, 251200
MDH2	100.0%	100.0%	100.0%	99.3%	Developmental and epileptic encephalopathy 51, 617339
MECR	100.0%	100.0%	100.0%	99.6%	Dystonia, childhood-onset, with optic atrophy and basal ganglia abnormalities, 617282
MED17	100.0%	100.0%	100.0%	99.1%	Microcephaly, postnatal progressive, with seizures and brain atrophy, 613668
MED23	100.0%	100.0%	100.0%	99.5%	Intellectual developmental disorder, autosomal recessive 18, w/wo epilepsy, 614249
MED25	100.0%	100.0%	100.0%	99.7%	Basel-Vanagait-Smirin-Yosef syndrome, 616449
MEFV	96.1%	96.1%	100.0%	99.7%	Neutrophilic dermatosis, acute febrile, 608068 Familial Mediterranean fever, AR, 249100 Familial Mediterranean fever, AD, 134610
MEGF10	100.0%	100.0%	100.0%	99.5%	Congenital myopathy 10A, severe variant, 614399 Congenital myopathy 10B, mild variant, 620249
MEGF8	100.0%	100.0%	99.9%	99.0%	Carpenter syndrome 2, 614976
MEOX1	100.0%	100.0%	100.0%	99.5%	Klippel-Feil syndrome 2, 214300
MERTK	98.5%	98.5%	100.0%	99.6%	Retinitis pigmentosa 38, 613862
MESD	100.0%	100.0%	100.0%	98.9%	Osteogenesis imperfecta, type XX, 618644
MESP2	100.0%	99.7%	100.0%	99.8%	Spondylocostal dysostosis 2, autosomal recessive, 608681
MET	100.0%	100.0%	100.0%	99.5%	Renal cell carcinoma, papillary, 1, familial and somatic, 605074 ?Arthrogryposis, distal, type 11, 620019 Hepatocellular carcinoma, childhood type, somatic, 114550 ?Deafness, autosomal recessive 97, 616705
METTL23	100.0%	100.0%	100.0%	99.6%	Intellectual developmental disorder, autosomal recessive 44, 615942
MFF	100.0%	100.0%	100.0%	99.6%	Encephalopathy due to defective mitochondrial and peroxisomal fission 2, 617086
MFN2	100.0%	100.0%	100.0%	99.5%	Lipomatosis, multiple symmetric, w/wo peripheral neuropathy, 151800 Charcot-Marie-Tooth disease, axonal, type 2A2A, 609260 Charcot-Marie-Tooth disease, axonal, type 2A2B, 617087 Hereditary motor and sensory neuropathy VIA, 601152
MFRP	100.0%	100.0%	100.0%	99.7%	Microphthalmia, isolated 5, 611040 Nanophthalmos 2, 609549
MFSD2A	100.0%	100.0%	100.0%	99.6%	Neurodevelopmental disorder with progressive microcephaly, spasticity, and brain abnormalities, 616486
MFSD8	100.0%	100.0%	100.0%	99.6%	Macular dystrophy with central cone involvement, 616170 Ceroid lipofuscinosis, neuronal, 7, 610951
MGAT2	100.0%	100.0%	100.0%	99.5%	Congenital disorder of glycosylation, type IIa, 212066

MGME1	100.0%	100.0%	100.0%	97.9%	Mitochondrial DNA depletion syndrome 11, 615084
MGP	100.0%	100.0%	100.0%	99.1%	Keutel syndrome, 245150
MICOS13	100.0%	100.0%	100.0%	99.6%	Combined oxidative phosphorylation deficiency 37, 618329
MICU1	100.0%	99.9%	100.0%	99.7%	Myopathy with extrapyramidal signs, 615673
MIPEP	100.0%	100.0%	100.0%	99.6%	Combined oxidative phosphorylation deficiency 31, 617228
MITF	99.9%	99.7%	100.0%	99.5%	Waardenburg syndrome, type 2A, 193510 Tietz albinism-deafness syndrome, 103500 COMMAD syndrome, 617306
MKKS	100.0%	100.0%	100.0%	99.6%	McKusick-Kaufman syndrome, 236700 Bardet-Biedl syndrome 6, 605231
MKS1	100.0%	100.0%	100.0%	99.7%	Bardet-Biedl syndrome 13, 615990 Meckel syndrome 1, 249000 Joubert syndrome 28, 617121
MLC1	100.0%	100.0%	100.0%	99.8%	Megalencephalic leukoencephalopathy with subcortical cysts 1, 604004
MLH1	100.0%	100.0%	100.0%	99.1%	Lynch syndrome 2, 609310 Muir-Torre syndrome, 158320 Mismatch repair cancer syndrome 1, 276300
MLPH	100.0%	100.0%	100.0%	99.8%	Griscelli syndrome, type 3, 609227
MLYCD	100.0%	100.0%	100.0%	99.9%	Malonyl-CoA decarboxylase deficiency, 248360
MMAA	100.0%	100.0%	100.0%	99.1%	Methylmalonic aciduria, vitamin B12-responsive, cblA type, 251100
MMAB	100.0%	100.0%	100.0%	99.0%	Methylmalonic aciduria, vitamin B12-responsive, cblB type, 251110
MMACHC	100.0%	100.0%	100.0%	99.2%	Methylmalonic aciduria and homocystinuria, cblC type, 277400
MMADHC	89.3%	89.3%	100.0%	98.9%	Methylmalonic aciduria, cblD type, variant 2, 277410 Methylmalonic aciduria and homocystinuria, cblD type, 277410 Homocystinuria, cblD type, variant 1, 277410
MME	97.6%	97.4%	100.0%	98.9%	?Spinocerebellar ataxia 43, 617018 Charcot-Marie-Tooth disease, axonal, type 2T, 617017
MMP13	92.2%	92.2%	100.0%	98.8%	?Spondyloepimetaphyseal dysplasia, Missouri type, 602111 Metaphyseal anadysplasia 1, 602111 Metaphyseal dysplasia, Spahr type, 250400
MMP14	100.0%	100.0%	100.0%	99.7%	?Winchester syndrome, 277950
MMP2	100.0%	100.0%	100.0%	99.7%	Multicentric osteolysis, nodulosis, and arthropathy, 259600
MMP20	100.0%	100.0%	100.0%	99.2%	Amelogenesis imperfecta, type IIA2, 612529
MMP21	100.0%	100.0%	100.0%	99.8%	Heterotaxy, visceral, 7, autosomal, 616749
MMP9	100.0%	100.0%	100.0%	99.8%	Metaphyseal anadysplasia 2, 613073

MMUT	100.0%	100.0%	100.0%	99.0%	Methylmalonic aciduria, mut(0) type, 251000
MOCOS	100.0%	100.0%	100.0%	99.4%	Xanthinuria, type II, 603592
MOCS1	100.0%	100.0%	100.0%	99.4%	Molybdenum cofactor deficiency A, 252150
MOCS2	100.0%	100.0%	100.0%	99.7%	Molybdenum cofactor deficiency B, 252160
MOGS	100.0%	100.0%	100.0%	99.9%	Congenital disorder of glycosylation, type IIb, 606056
MPC1	100.0%	100.0%	100.0%	99.7%	Mitochondrial pyruvate carrier deficiency, 614741
MPDU1	100.0%	100.0%	100.0%	97.7%	Congenital disorder of glycosylation, type If, 609180
MPDZ	99.5%	99.1%	100.0%	99.3%	Hydrocephalus, congenital, 2, w/wo brain or eye anomalies, 615219
MPI	100.0%	100.0%	100.0%	99.7%	Congenital disorder of glycosylation, type Ib, 602579
MPL	100.0%	100.0%	100.0%	99.5%	Myelofibrosis with myeloid metaplasia, somatic, 254450 Thrombocythemia 2, 601977 Thrombocytopenia, congenital amegakaryocytic, 604498
MPLKIP	100.0%	100.0%	100.0%	99.1%	Trichothiodystrophy 4, nonphotosensitive, 234050
MPO	100.0%	100.0%	100.0%	99.7%	Myeloperoxidase deficiency, 254600
MPV17	100.0%	100.0%	100.0%	99.7%	Charcot-Marie-Tooth disease, axonal, type 2EE, 618400 Mitochondrial DNA depletion syndrome 6 (hepatocerebral type), 256810
MPZ	100.0%	100.0%	100.0%	99.6%	Charcot-Marie-Tooth disease, type 2I, 607677 Dejerine-Sottas disease, 145900 Charcot-Marie-Tooth disease, type 1B, 118200 Roussy-Levy syndrome, 180800 Charcot-Marie-Tooth disease, dominant intermediate D, 607791 Hypomyelinating neuropathy, congenital, 2, 618184 Charcot-Marie-Tooth disease, type 2J, 607736
MPZL2	100.0%	100.0%	100.0%	99.7%	Deafness, autosomal recessive 111, 618145
MRAP	100.0%	100.0%	100.0%	99.9%	Glucocorticoid deficiency 2, 607398
MRE11	100.0%	100.0%	100.0%	98.9%	Ataxia-telangiectasia-like disorder 1, 604391
MRM2	97.0%	97.0%	100.0%	99.0%	?Mitochondrial DNA depletion syndrome 17, 618567
MRPL3	100.0%	100.0%	100.0%	99.7%	Combined oxidative phosphorylation deficiency 9, 614582
MRPL44	100.0%	100.0%	100.0%	99.4%	Combined oxidative phosphorylation deficiency 16, 615395
MRPS16	100.0%	100.0%	100.0%	99.9%	Combined oxidative phosphorylation deficiency 2, 610498
MRPS2	100.0%	100.0%	100.0%	99.9%	Combined oxidative phosphorylation deficiency 36, 617950
MRPS22	100.0%	100.0%	100.0%	98.9%	Ovarian dysgenesis 7, 618117 Combined oxidative phosphorylation deficiency 5, 611719
MRPS34	100.0%	100.0%	100.0%	99.9%	Combined oxidative phosphorylation deficiency 32, 617664
MS4A1	100.0%	100.0%	100.0%	98.3%	?Immunodeficiency, common variable, 5, 613495

MSH2	100.0%	100.0%	100.0%	98.9%	Lynch syndrome 1, 120435 Muir-Torre syndrome, 158320 Mismatch repair cancer syndrome 2, 619096
MSH3	100.0%	100.0%	100.0%	98.1%	Familial adenomatous polyposis 4, 617100 Endometrial carcinoma, somatic, 608089
MSH6	100.0%	100.0%	100.0%	99.4%	Lynch syndrome 5, 614350 Mismatch repair cancer syndrome 3, 619097
MSMO1	100.0%	100.0%	100.0%	99.4%	Microcephaly, congenital cataract, and psoriasiform dermatitis, 616834
MSRB3	100.0%	100.0%	100.0%	98.2%	Deafness, autosomal recessive 74, 613718
MSTO1	100.0%	100.0%	100.0%	99.1%	Myopathy, mitochondrial, and ataxia, 617675
MTFMT	100.0%	100.0%	100.0%	99.4%	Combined oxidative phosphorylation deficiency 15, 614947 Mitochondrial complex I deficiency, nuclear type 27, 618248
MTHFD1	100.0%	100.0%	100.0%	99.2%	Combined immunodeficiency and megaloblastic anemia w/wo hyperhomocysteinemia, 617780
MTHFR	100.0%	100.0%	100.0%	99.7%	Homocystinuria due to MTHFR deficiency, 236250
MTHFS	100.0%	100.0%	100.0%	99.1%	Neurodevelopmental disorder with microcephaly, epilepsy, and hypomyelination, 618367
MTMR2	100.0%	100.0%	100.0%	99.5%	Charcot-Marie-Tooth disease, type 4B1, 601382
MTO1	93.7%	91.1%	100.0%	99.5%	Combined oxidative phosphorylation deficiency 10, 614702
MTPAP	100.0%	100.0%	100.0%	99.3%	?Spastic ataxia 4, autosomal recessive, 613672
MTR	100.0%	100.0%	100.0%	99.3%	Homocystinuria-megaloblastic anemia, cblG complementation type, 250940
MTRR	100.0%	100.0%	100.0%	98.9%	Homocystinuria-megaloblastic anemia, cbl E type, 236270
MTTP	100.0%	100.0%	100.0%	99.3%	Abetalipoproteinemia, 200100
MUSK	100.0%	100.0%	100.0%	99.6%	Fetal akinesia deformation sequence 1, 208150 Myasthenic syndrome, congenital, 9, associated with acetylcholine receptor deficiency, 616325
MUTYH	100.0%	100.0%	100.0%	99.7%	Adenomas, multiple colorectal, 608456 Gastric cancer, somatic, 613659
MVK	90.4%	90.4%	100.0%	100.0%	Hyper-IgD syndrome, 260920 Porokeratosis 3, multiple types, 175900 Mevalonic aciduria, 610377
MYBPC1	100.0%	100.0%	100.0%	99.5%	Congenital myopathy 16, 618524 Lethal congenital contracture syndrome 4, 614915 Arthrogryposis, distal, type 1B, 614335
MYD88	100.0%	100.0%	100.0%	99.9%	Macroglobulinemia, Waldenstrom, somatic, 153600 Immunodeficiency 68, 612260
MYF5	100.0%	100.0%	100.0%	99.6%	Ophthalmoplegia, external, with rib and vertebral anomalies, 618155
MYH2	100.0%	100.0%	100.0%	98.9%	Congenital myopathy 6 with ophthalmoplegia, 605637

MYH3	100.0%	100.0%	100.0%	98.9%	Contractures, pterygia, and spondylocarpostarsal fusion syndrome 1A, 178110 Contractures, pterygia, and spondylocarpotarsal fusion syndrome 1B, 618469 Arthrogryposis, distal, type 2B3 (Sheldon-Hall), 618436 Arthrogryposis, distal, type 2A (Freeman-Sheldon), 193700
MYL1	100.0%	100.0%	100.0%	99.1%	Congenital myopathy 14, 618414
MYL2	100.0%	100.0%	100.0%	98.7%	Cardiomyopathy, hypertrophic, 10, 608758 Myopathy, myofibrillar, 12, infantile-onset, with cardiomyopathy, 619424
MYL3	100.0%	100.0%	100.0%	99.4%	Cardiomyopathy, hypertrophic, 8, 608751
MYLK	100.0%	100.0%	100.0%	99.5%	Megacystis-microcolon-intestinal hypoperistalsis syndrome 1, 249210 Aortic aneurysm, familial thoracic 7, 613780
MYMK	100.0%	100.0%	100.0%	99.6%	Carey-Fineman-Ziter syndrome, 254940
MYO15A	100.0%	100.0%	100.0%	99.8%	Deafness, autosomal recessive 3, 600316
MYO18B	100.0%	100.0%	100.0%	99.0%	Klippel-Feil syndrome 4, autosomal recessive, with myopathy and facial dysmorphism, 616549
MYO1E	100.0%	100.0%	100.0%	99.5%	Glomerulosclerosis, focal segmental, 6, 614131
MYO3A	100.0%	100.0%	100.0%	99.1%	Deafness, autosomal recessive 30, 607101
MYO5A	100.0%	100.0%	100.0%	99.3%	Griscelli syndrome, type 1, 214450
MYO5B	100.0%	99.9%	100.0%	99.4%	Diarrhea 2, with microvillus atrophy, w/wo cholestasis, 251850 Cholestasis, progressive familial intrahepatic, 10, 619868
MYO6	100.0%	100.0%	100.0%	99.1%	Deafness, autosomal dominant 22, with hypertrophic cardiomyopathy, 606346 Deafness, autosomal dominant 22, 606346 Deafness, autosomal recessive 37, 607821
MYO7A	100.0%	100.0%	100.0%	99.5%	Deafness, autosomal recessive 2, 600060 Usher syndrome, type 1B, 276900 Deafness, autosomal dominant 11, 601317
MYO9A	100.0%	100.0%	100.0%	99.4%	Myasthenic syndrome, congenital, 24, presynaptic, 618198
MYORG	100.0%	100.0%	100.0%	100.0%	Basal ganglia calcification, idiopathic, 7, autosomal recessive, 618317
MYPN	100.0%	100.0%	100.0%	99.5%	Cardiomyopathy, hypertrophic, 22, 615248 Congenital myopathy 24, 617336 Cardiomyopathy, familial restrictive, 4, 615248 Cardiomyopathy, dilated, 1KK, 615248
MYSM1	100.0%	100.0%	100.0%	99.1%	Bone marrow failure syndrome 4, 618116
NADK2	100.0%	100.0%	100.0%	99.1%	2,4-dienoyl-CoA reductase deficiency, 616034
NADSYN1	100.0%	100.0%	100.0%	99.9%	Vertebral, cardiac, renal, and limb defects syndrome 3, 618845

NAGA	100.0%	100.0%	100.0%	99.7%	Schindler disease, type I, 609241 Kanzaki disease, 609242 Schindler disease, type III, 609241
NAGLU	100.0%	100.0%	100.0%	99.9%	?Charcot-Marie-Tooth disease, axonal, type 2V, 616491 Mucopolysaccharidosis type IIIB (Sanfilippo B), 252920
NAGS	100.0%	100.0%	100.0%	99.6%	N-acetylglutamate synthase deficiency, 237310
NALCN	100.0%	100.0%	100.0%	99.4%	Congenital contractures of the limbs and face, hypotonia, and developmental delay, 616266 Hypotonia, infantile, with psychomotor retardation and characteristic facies 1, 615419
NANS	100.0%	100.0%	99.9%	99.1%	Spondyloepimetaphyseal dysplasia, Camera-Genevieve type, 610442
NARS2	100.0%	100.0%	100.0%	99.6%	Combined oxidative phosphorylation deficiency 24, 616239 ?Deafness, autosomal recessive 94, 618434
NAT8L	98.8%	93.4%	99.9%	94.5%	?N-acetylaspartate deficiency, 614063
NAXD	100.0%	100.0%	100.0%	99.8%	Encephalopathy, progressive, early-onset, with brain edema and/or leukoencephalopathy, 2, 618321
NAXE	100.0%	100.0%	100.0%	99.7%	Encephalopathy, progressive, early-onset, with brain edema and/or leukoencephalopathy, 617186
NBAS	100.0%	99.9%	100.0%	99.4%	Short stature, optic nerve atrophy, and Pelger-Huet anomaly, 614800 Infantile liver failure syndrome 2, 616483
NBEAL2	100.0%	100.0%	100.0%	99.9%	Gray platelet syndrome, 139090
NBN	100.0%	100.0%	100.0%	98.8%	Leukemia, acute lymphoblastic, 613065 Aplastic anemia, 609135 Nijmegen breakage syndrome, 251260
NCAPD2	100.0%	100.0%	100.0%	99.2%	?Microcephaly 21, primary, autosomal recessive, 617983
NCAPD3	100.0%	100.0%	100.0%	99.7%	Microcephaly 22, primary, autosomal recessive, 617984
NCAPG2	100.0%	100.0%	100.0%	99.3%	Khan-Khan-Katsanis syndrome, 618460
NCAPH	100.0%	100.0%	100.0%	99.6%	?Microcephaly 23, primary, autosomal recessive, 617985
NCF1	100.0%	99.6%	100.0%	98.9%	Chronic granulomatous disease 1, autosomal recessive, 233700
NCF2	100.0%	100.0%	100.0%	99.5%	Chronic granulomatous disease 2, autosomal recessive, 233710
NCF4	100.0%	100.0%	100.0%	99.8%	Chronic granulomatous disease 3, autosomal recessive, 613960
NDE1	100.0%	100.0%	100.0%	99.2%	Microhydranencephaly, 605013 Lissencephaly 4 (with microcephaly), 614019
NDRG1	100.0%	100.0%	100.0%	99.5%	Charcot-Marie-Tooth disease, type 4D, 601455
NDST1	100.0%	100.0%	100.0%	99.8%	Intellectual developmental disorder, autosomal recessive 46, 616116
NDUFA10	100.0%	100.0%	100.0%	99.1%	Mitochondrial complex I deficiency, nuclear type 22, 618243
NDUFA11	100.0%	98.8%	100.0%	98.4%	Mitochondrial complex I deficiency, nuclear type 14, 618236
NDUFA12	100.0%	100.0%	100.0%	98.5%	Mitochondrial complex I deficiency, nuclear type 23, 618244
NDUFA13	100.0%	100.0%	100.0%	99.7%	?Mitochondrial complex I deficiency, nuclear type 28, 618249

NDUFA2	100.0%	100.0%	100.0%	99.7%	Mitochondrial complex I deficiency, nuclear type 13, 618235
NDUFA6	100.0%	100.0%	100.0%	99.9%	Mitochondrial complex I deficiency, nuclear type 33, 618253
NDUFA9	100.0%	100.0%	100.0%	99.6%	Mitochondrial complex I deficiency, nuclear type 26, 618247
NDUFAF1	100.0%	100.0%	100.0%	98.7%	Mitochondrial complex I deficiency, nuclear type 11, 618234
NDUFAF2	100.0%	100.0%	100.0%	99.7%	Mitochondrial complex I deficiency, nuclear type 10, 618233
NDUFAF3	100.0%	100.0%	100.0%	99.6%	Mitochondrial complex I deficiency, nuclear type 18, 618240
NDUFAF4	100.0%	100.0%	100.0%	98.6%	Mitochondrial complex I deficiency, nuclear type 15, 618237
NDUFAF5	100.0%	100.0%	100.0%	98.1%	Mitochondrial complex I deficiency, nuclear type 16, 618238
NDUFAF6	100.0%	100.0%	100.0%	98.5%	Mitochondrial complex I deficiency, nuclear type 17, 618239 Fanconi renotubular syndrome 5, 618913
NDUFB11	99.7%	97.9%	93.6%	63.1%	Linear skin defects with multiple congenital anomalies 3, 300952 ?Mitochondrial complex I deficiency, nuclear type 30, 301021
NDUFB3	100.0%	100.0%	100.0%	99.8%	Mitochondrial complex I deficiency, nuclear type 25, 618246
NDUFB8	100.0%	100.0%	100.0%	99.2%	Mitochondrial complex I deficiency, nuclear type 32, 618252
NDUFB9	100.0%	100.0%	100.0%	99.4%	?Mitochondrial complex I deficiency, nuclear type 24, 618245
NDUFS1	100.0%	100.0%	100.0%	99.1%	Mitochondrial complex I deficiency, nuclear type 5, 618226
NDUFS2	100.0%	100.0%	100.0%	99.2%	Mitochondrial complex I deficiency, nuclear type 6, 618228
NDUFS3	96.6%	91.3%	100.0%	99.5%	Mitochondrial complex I deficiency, nuclear type 8, 618230
NDUFS4	100.0%	99.9%	100.0%	99.1%	Mitochondrial complex I deficiency, nuclear type 1, 252010
NDUFS6	100.0%	100.0%	99.9%	99.0%	Mitochondrial complex I deficiency, nuclear type 9, 618232
NDUFS7	100.0%	100.0%	100.0%	100.0%	Mitochondrial complex I deficiency, nuclear type 3, 618224
NDUFS8	100.0%	100.0%	100.0%	99.9%	Mitochondrial complex I deficiency, nuclear type 2, 618222
NDUFV1	100.0%	100.0%	100.0%	99.6%	Mitochondrial complex I deficiency, nuclear type 4, 618225
NDUFV2	100.0%	100.0%	100.0%	99.5%	Mitochondrial complex I deficiency, nuclear type 7, 618229
NEB	99.7%	99.2%	99.7%	98.1%	Nemaline myopathy 2, autosomal recessive, 256030 Arthrogryposis multiplex congenita 6, 619334
NECAP1	100.0%	100.0%	100.0%	99.6%	Developmental and epileptic encephalopathy 21, 615833
NECTIN1	100.0%	100.0%	100.0%	99.7%	Cleft lip/palate-ectodermal dysplasia syndrome, 225060 Orofacial cleft 7, 225060
NECTIN4	100.0%	100.0%	100.0%	99.8%	Ectodermal dysplasia-syndactyly syndrome 1, 613573
NEK1	100.0%	100.0%	100.0%	99.0%	Short-rib thoracic dysplasia 6 w/wo polydactyly, 263520
NEK2	95.9%	95.9%	100.0%	99.6%	?Retinitis pigmentosa 67, 615565
NEK8	100.0%	100.0%	100.0%	99.8%	Renal-hepatic-pancreatic dysplasia 2, 615415 ?Nephronophthisis 9, 613824

NEK9	100.0%	100.0%	100.0%	99.5%	?Arthrogryposis, Perthes disease, and upward gaze palsy, 614262 Nevus comedonicus, somatic, 617025 Lethal congenital contracture syndrome 10, 617022
NEPRO	100.0%	100.0%	100.0%	98.7%	Anauxetic dysplasia 3, 618853
NEU1	100.0%	100.0%	100.0%	99.3%	Sialidosis, type II, 256550 Sialidosis, type I, 256550
NEUROG3	100.0%	100.0%	100.0%	99.7%	Diarrhea 4, malabsorptive, congenital, 610370
NFASC	100.0%	100.0%	100.0%	99.8%	Neurodevelopmental disorder with central and peripheral motor dysfunction, 618356
NFU1	100.0%	100.0%	100.0%	99.4%	Multiple mitochondrial dysfunctions syndrome 1, 605711
NGF	100.0%	100.0%	100.0%	99.8%	Neuropathy, hereditary sensory and autonomic, type V, 608654
NGLY1	100.0%	100.0%	100.0%	99.3%	Congenital disorder of deglycosylation 1, 615273
NHEJ1	100.0%	100.0%	100.0%	99.7%	Severe combined immunodeficiency with microcephaly, growth retardation, and sensitivity to ionizing radiation, 611291
NHLRC1	100.0%	100.0%	100.0%	99.9%	Epilepsy, progressive myoclonic 2B (Lafora), 254780
NHLRC2	100.0%	99.9%	100.0%	99.6%	FINCA syndrome, 618278
NHP2	100.0%	100.0%	100.0%	99.3%	Dyskeratosis congenita, autosomal recessive 2, 613987
NIN	100.0%	100.0%	100.0%	99.0%	?Seckel syndrome 7, 614851
NIPAL4	100.0%	100.0%	100.0%	99.2%	Ichthyosis, congenital, autosomal recessive 6, 612281
NKX2-6	100.0%	100.0%	100.0%	100.0%	Persistent truncus arteriosus, 217095 Conotruncal heart malformations, 217095
NKX3-2	100.0%	100.0%	100.0%	99.7%	Spondylo-megaepiphyseal-metaphyseal dysplasia, 613330
NKX6-2	100.0%	100.0%	100.0%	95.3%	Spastic ataxia 8, autosomal recessive, with hypomyelinating leukodystrophy, 617560
NLRP1	100.0%	100.0%	100.0%	99.6%	?Respiratory papillomatosis, juvenile recurrent, congenital, 618803 Autoinflammation with arthritis and dyskeratosis, 617388 Palmoplantar carcinoma, multiple self-healing, 615225
NLRP7	100.0%	100.0%	100.0%	99.4%	Hydatidiform mole, recurrent, 1, 231090
NME8	99.9%	99.5%	100.0%	99.1%	?Ciliary dyskinesia, primary, 6, 610852
NMNAT1	99.9%	97.7%	100.0%	97.6%	Spondyloepiphyseal dysplasia, sensorineural hearing loss, intellectual developmental disorder, and Leber congenital amaurosis, 619260 Leber congenital amaurosis 9, 608553
NNT	96.4%	96.3%	100.0%	99.6%	Glucocorticoid deficiency 4, w/wo mineralocorticoid deficiency, 614736
NOP10	100.0%	100.0%	100.0%	99.8%	?Pulmonary fibrosis and/or bone marrow failure syndrome, telomere-related, 9, 620400 ?Cataracts, hearing impairment, nephrotic syndrome, and enterocolitis 2, 620425 ?Dyskeratosis congenita, autosomal recessive 1, 224230

NPC1	100.0%	100.0%	100.0%	99.5%	Niemann-Pick disease, type C1, 257220 Niemann-Pick disease, type D, 257220
NPC2	100.0%	100.0%	100.0%	98.9%	Niemann-pick disease, type C2, 607625
NPHP1	100.0%	100.0%	100.0%	99.4%	Joubert syndrome 4, 609583 Nephronophthisis 1, juvenile, 256100 Senior-Loken syndrome-1, 266900
NPHP3	100.0%	100.0%	100.0%	99.3%	Nephronophthisis 3, 604387 Renal-hepatic-pancreatic dysplasia 1, 208540 Meckel syndrome 7, 267010
NPHP4	100.0%	100.0%	100.0%	99.7%	Senior-Loken syndrome 4, 606996 Nephronophthisis 4, 606966
NPHS1	100.0%	100.0%	100.0%	99.4%	Nephrotic syndrome, type 1, 256300
NPHS2	100.0%	100.0%	100.0%	99.6%	Nephrotic syndrome, type 2, 600995
NPPA	100.0%	100.0%	100.0%	99.6%	Atrial standstill 2, 615745 Atrial fibrillation, familial, 6, 612201
NPR2	100.0%	100.0%	100.0%	99.8%	Epiphyseal chondrodysplasia, Miura type, 615923 Short stature with nonspecific skeletal abnormalities, 616255 Acromesomelic dysplasia 1, Maroteaux type, 602875
NR0B2	100.0%	100.0%	100.0%	99.7%	Obesity, mild, early-onset, 601665
NR1H4	100.0%	100.0%	100.0%	99.1%	Cholestasis, progressive familial intrahepatic, 5, 617049
NR2E3	100.0%	100.0%	100.0%	99.6%	Retinitis pigmentosa 37, 611131 Enhanced S-cone syndrome, 268100
NRCAM	100.0%	100.0%	100.0%	99.6%	Neurodevelopmental disorder with neuromuscular and skeletal abnormalities, 619833
NRROS	100.0%	100.0%	100.0%	99.8%	Seizures, early-onset, with neurodegeneration and brain calcification, 618875
NRXN1	99.8%	99.7%	100.0%	99.8%	Pitt-Hopkins-like syndrome 2, 614325
NSMCE2	100.0%	100.0%	100.0%	98.2%	Seckel syndrome 10, 617253
NSMCE3	100.0%	100.0%	100.0%	99.5%	Lung disease, immunodeficiency, and chromosome breakage syndrome, 617241
NSUN2	100.0%	100.0%	100.0%	99.4%	Intellectual developmental disorder, autosomal recessive 5, 611091
NT5C2	100.0%	100.0%	100.0%	99.4%	Spastic paraplegia 45, autosomal recessive, 613162
NT5C3A	100.0%	100.0%	100.0%	99.2%	Anemia, hemolytic, due to UMPH1 deficiency, 266120
NT5E	100.0%	100.0%	100.0%	99.4%	Calcification of joints and arteries, 211800
NTHL1	100.0%	100.0%	100.0%	99.8%	Familial adenomatous polyposis 3, 616415
NTNG2	100.0%	100.0%	100.0%	99.8%	Neurodevelopmental disorder with behavioral abnormalities, absent speech, and hypotonia, 618718
NTRK1	100.0%	100.0%	100.0%	99.6%	Insensitivity to pain, congenital, with anhidrosis, 256800
NUBPL	100.0%	100.0%	100.0%	99.5%	Mitochondrial complex I deficiency, nuclear type 21, 618242

NUP107	100.0%	100.0%	100.0%	99.0%	?Ovarian dysgenesis 6, 618078 Galloway-Mowat syndrome 7, 618348 Nephrotic syndrome, type 11, 616730
NUP133	100.0%	100.0%	100.0%	99.3%	?Galloway-Mowat syndrome 8, 618349 Nephrotic syndrome, type 18, 618177
NUP160	100.0%	100.0%	100.0%	99.4%	?Nephrotic syndrome, type 19, 618178
NUP188	100.0%	100.0%	100.0%	99.6%	Sandestig-Stefanova syndrome, 618804
NUP205	100.0%	100.0%	100.0%	99.5%	?Nephrotic syndrome, type 13, 616893
NUP214	100.0%	100.0%	100.0%	99.4%	Leukemia, T-cell acute lymphoblastic, somatic, 613065 Leukemia, acute myeloid, somatic, 601626
NUP37	100.0%	100.0%	100.0%	98.9%	?Microcephaly 24, primary, autosomal recessive, 618179
NUP62	100.0%	100.0%	100.0%	99.9%	Striatonigral degeneration, infantile, 271930
NUP85	100.0%	100.0%	100.0%	98.9%	Nephrotic syndrome, type 17, 618176
NUP88	100.0%	100.0%	100.0%	99.5%	Fetal akinesia deformation sequence 4, 618393
NUP93	95.5%	95.5%	100.0%	99.7%	Nephrotic syndrome, type 12, 616892
NUS1	100.0%	100.0%	100.0%	99.7%	Intellectual developmental disorder, autosomal dominant 55, with seizures, 617831 ?Congenital disorder of glycosylation, type 1aa, 617082
NXN	100.0%	100.0%	100.0%	99.5%	Robinow syndrome, autosomal recessive 2, 618529
OAT	100.0%	100.0%	100.0%	99.6%	Gyrate atrophy of choroid and retina w/wo ornithinemia, 258870
OBSL1	100.0%	100.0%	100.0%	99.9%	3-M syndrome 2, 612921
OCA2	100.0%	100.0%	100.0%	99.7%	Albinism, brown oculocutaneous, 203200 Albinism, oculocutaneous, type II, 203200
OCLN	100.0%	100.0%	99.9%	97.1%	Pseudo-TORCH syndrome 1, 251290
ODAPH	100.0%	100.0%	100.0%	99.2%	Amelogenesis imperfecta, type IIA4, 614832
OGDH	100.0%	100.0%	100.0%	99.7%	Oxoglutarate dehydrogenase deficiency, 203740
OGDHL	100.0%	100.0%	100.0%	99.7%	Yoon-Bellen neurodevelopmental syndrome, 619701
OPA1	100.0%	100.0%	100.0%	99.4%	Optic atrophy plus syndrome, 125250 Optic atrophy 1, 165500 Behr syndrome, 210000 ?Mitochondrial DNA depletion syndrome 14 (encephalocardiomyopathic type), 616896
OPA3	100.0%	100.0%	100.0%	99.8%	3-methylglutaconic aciduria, type III, 258501 Optic atrophy 3 with cataract, 165300
OPLAH	100.0%	100.0%	100.0%	99.7%	5-oxoprolinase deficiency, 260005
ORAI1	100.0%	100.0%	100.0%	98.8%	Immunodeficiency 9, 612782 Myopathy, tubular aggregate, 2, 615883

ORC1	100.0%	100.0%	100.0%	99.6%	Meier-Gorlin syndrome 1, 224690
ORC4	99.1%	98.3%	100.0%	98.7%	Meier-Gorlin syndrome 2, 613800
ORC6	100.0%	100.0%	100.0%	99.3%	Meier-Gorlin syndrome 3, 613803
OSGEP	100.0%	100.0%	100.0%	99.6%	Galloway-Mowat syndrome 3, 617729
OSTM1	100.0%	100.0%	100.0%	99.7%	Osteopetrosis, autosomal recessive 5, 259720
OTOA	100.0%	100.0%	100.0%	99.6%	Deafness, autosomal recessive 22, 607039
OTOF	100.0%	100.0%	100.0%	99.5%	Auditory neuropathy, autosomal recessive, 1, 601071 Deafness, autosomal recessive 9, 601071
OTOG	100.0%	100.0%	100.0%	99.7%	Deafness, autosomal recessive 18B, 614945
OTOGL	100.0%	100.0%	100.0%	99.6%	Deafness, autosomal recessive 84B, 614944
OTUD6B	100.0%	100.0%	100.0%	99.0%	Intellectual developmental disorder with dysmorphic facies, seizures, and distal limb anomalies, 617452
OTULIN	100.0%	100.0%	100.0%	99.9%	Autoinflammation, panniculitis, and dermatosis syndrome, 617099
OXCT1	100.0%	100.0%	100.0%	99.1%	Succinyl CoA:3-oxoacid CoA transferase deficiency, 245050
P2RY12	100.0%	100.0%	100.0%	98.7%	Bleeding disorder, platelet-type, 8, 609821
P3H1	100.0%	100.0%	100.0%	99.6%	Osteogenesis imperfecta, type VIII, 610915
P3H2	100.0%	100.0%	100.0%	99.7%	Myopia, high, with cataract and vitreoretinal degeneration, 614292
P4HTM	100.0%	100.0%	100.0%	99.4%	Hypotonia, hypoventilation, impaired intellectual development, dysautonomia, epilepsy, and eye abnormalities, 618493
PAH	100.0%	100.0%	100.0%	99.7%	Phenylketonuria, 261600
PAM16	85.2%	84.5%	100.0%	99.8%	Spondylometaphyseal dysplasia, Megarbane-Dagher-Melike type, 613320
PANK2	100.0%	100.0%	100.0%	99.6%	HARP syndrome, 607236 Neurodegeneration with brain iron accumulation 1, 234200
PAPSS2	100.0%	99.6%	100.0%	99.3%	Brachyolmia 4 with mild epiphyseal and metaphyseal changes, 612847
PARK7	100.0%	100.0%	100.0%	99.5%	Parkinson disease 7, autosomal recessive early-onset, 606324
PARN	97.0%	95.9%	100.0%	99.5%	Dyskeratosis congenita, autosomal recessive 6, 616353 Pulmonary fibrosis and/or bone marrow failure syndrome, telomere-related, 4, 616371
PARS2	100.0%	100.0%	100.0%	99.7%	Developmental and epileptic encephalopathy 75, 618437
PATL2	100.0%	100.0%	100.0%	98.9%	Oocyte/zygote/embryo maturation arrest 4, 617743
PAX1	100.0%	100.0%	100.0%	99.2%	Otofaciocervical syndrome 2, 615560
PAX3	100.0%	99.8%	100.0%	99.4%	Craniofacial-deafness-hand syndrome, 122880 Waardenburg syndrome, type 3, 148820 Waardenburg syndrome, type 1, 193500 Rhabdomyosarcoma 2, alveolar, 268220
PAX7	100.0%	100.0%	100.0%	99.5%	Congenital myopathy 19, 618578 Rhabdomyosarcoma 2, alveolar, 268220

PC	100.0%	100.0%	100.0%	99.8%	Pyruvate carboxylase deficiency, 266150
PCARE	100.0%	100.0%	100.0%	98.8%	Retinitis pigmentosa 54, 613428
PCBD1	100.0%	100.0%	100.0%	99.9%	Hyperphenylalaninemia, BH4-deficient, D, 264070
PCCA	100.0%	100.0%	100.0%	99.1%	Propionicacidemia, 606054
PCCB	99.9%	98.0%	100.0%	99.4%	Propionicacidemia, 606054
PCDH12	100.0%	100.0%	100.0%	99.8%	Diencephalic-mesencephalic junction dysplasia syndrome 1, 251280
PCDH15	100.0%	100.0%	100.0%	99.5%	Usher syndrome, type 1D/F digenic, 601067 Deafness, autosomal recessive 23, 609533 Usher syndrome, type 1F, 602083
PCK1	100.0%	100.0%	100.0%	99.8%	Phosphoenolpyruvate carboxykinase deficiency, cytosolic, 261680
PCK2	100.0%	100.0%	100.0%	99.9%	No OMIM disease ID
PCLO	99.9%	99.7%	100.0%	98.3%	?Pontocerebellar hypoplasia, type 3, 608027
PCNT	100.0%	100.0%	100.0%	99.6%	Microcephalic osteodysplastic primordial dwarfism, type II, 210720
PCSK1	100.0%	100.0%	100.0%	99.5%	Endocrinopathy due to proprotein convertase 1/3 deficiency, 600955
PCYT1A	100.0%	100.0%	100.0%	99.0%	Spondylometaphyseal dysplasia with cone-rod dystrophy, 608940
PDE10A	99.7%	98.7%	99.8%	94.6%	Striatal degeneration, autosomal dominant, 616922 Dyskinesia, limb and orofacial, infantile-onset, 616921
PDE6A	100.0%	100.0%	100.0%	99.2%	Retinitis pigmentosa 43, 613810
PDE6B	100.0%	100.0%	100.0%	99.8%	Retinitis pigmentosa-40, 613801 Night blindness, congenital stationary, autosomal dominant 2, 163500
PDE6C	100.0%	100.0%	100.0%	98.5%	Cone dystrophy 4, 613093
PDE6D	100.0%	100.0%	100.0%	99.1%	Joubert syndrome 22, 615665
PDE6G	100.0%	100.0%	100.0%	98.5%	Retinitis pigmentosa 57, 613582
PDE6H	100.0%	99.9%	100.0%	98.9%	Retinal cone dystrophy 3, 610024 Achromatopsia 6, 610024
PDHB	100.0%	100.0%	100.0%	99.2%	Pyruvate dehydrogenase E1-beta deficiency, 614111
PDHX	100.0%	99.8%	100.0%	99.3%	Lacticacidemia due to PDX1 deficiency, 245349
PDP1	100.0%	100.0%	100.0%	99.9%	Pyruvate dehydrogenase phosphatase deficiency, 608782
PDSS1	100.0%	100.0%	100.0%	99.5%	Coenzyme Q10 deficiency, primary, 2, 614651
PDSS2	100.0%	100.0%	100.0%	99.3%	Coenzyme Q10 deficiency, primary, 3, 614652
PDX1	100.0%	100.0%	100.0%	100.0%	Pancreatic agenesis 1, 260370 MODY, type IV, 606392
PDXK	99.6%	97.0%	100.0%	99.7%	Neuropathy, hereditary motor and sensory, type VIC, with optic atrophy, 618511
PDZD7	100.0%	99.2%	100.0%	99.6%	Deafness, autosomal recessive 57, 618003 Usher syndrome, type IIC, GPR98/PDZD7 digenic, 605472

PEPD	100.0%	100.0%	100.0%	99.9%	Prolidase deficiency, 170100
PET100	100.0%	100.0%	100.0%	99.8%	Mitochondrial complex IV deficiency, nuclear type 12, 619055
PEX1	100.0%	100.0%	100.0%	99.3%	Heimler syndrome 1, 234580 Peroxisome biogenesis disorder 1B (NALD/IRD), 601539 Peroxisome biogenesis disorder 1A (Zellweger), 214100
PEX10	100.0%	100.0%	100.0%	100.0%	Peroxisome biogenesis disorder 6A (Zellweger), 614870 Peroxisome biogenesis disorder 6B, 614871
PEX11B	100.0%	100.0%	100.0%	97.4%	Peroxisome biogenesis disorder 14B, 614920
PEX12	100.0%	100.0%	100.0%	99.4%	Peroxisome biogenesis disorder 3B, 266510 Peroxisome biogenesis disorder 3A (Zellweger), 614859
PEX13	100.0%	100.0%	100.0%	99.0%	Peroxisome biogenesis disorder 11A (Zellweger), 614883 Peroxisome biogenesis disorder 11B, 614885
PEX14	100.0%	100.0%	100.0%	99.8%	Peroxisome biogenesis disorder 13A (Zellweger), 614887
PEX16	100.0%	100.0%	100.0%	99.3%	Peroxisome biogenesis disorder 8B, 614877 Peroxisome biogenesis disorder 8A (Zellweger), 614876
PEX19	100.0%	100.0%	100.0%	99.6%	Peroxisome biogenesis disorder 12A (Zellweger), 614886
PEX2	100.0%	100.0%	100.0%	99.6%	Peroxisome biogenesis disorder 5A (Zellweger), 614866 Peroxisome biogenesis disorder 5B, 614867
PEX26	100.0%	100.0%	100.0%	99.2%	Peroxisome biogenesis disorder 7B, 614873 Peroxisome biogenesis disorder 7A (Zellweger), 614872
PEX3	100.0%	100.0%	100.0%	98.9%	Peroxisome biogenesis disorder 10A (Zellweger), 614882 ?Peroxisome biogenesis disorder 10B, 617370
PEX5	100.0%	100.0%	100.0%	99.4%	Peroxisome biogenesis disorder 2B, 202370 Peroxisome biogenesis disorder 2A (Zellweger), 214110 Rhizomelic chondrodysplasia punctata, type 5, 616716
PEX6	100.0%	100.0%	100.0%	99.5%	Peroxisome biogenesis disorder 4B, 614863 Peroxisome biogenesis disorder 4A (Zellweger), 614862 Heimler syndrome 2, 616617
PEX7	91.2%	91.2%	100.0%	99.6%	Rhizomelic chondrodysplasia punctata, type 1, 215100 Peroxisome biogenesis disorder 9B, 614879
PFKM	100.0%	100.0%	100.0%	99.7%	Glycogen storage disease VII, 232800
PGAM2	100.0%	100.0%	100.0%	99.9%	Glycogen storage disease X, 261670
PGAP1	100.0%	100.0%	100.0%	99.2%	Neurodevelopmental disorder with dysmorphic features, spasticity, and brain abnormalities, 615802
PGAP2	100.0%	100.0%	100.0%	99.7%	Hyperphosphatasia with impaired intellectual development syndrome 3, 614207
PGAP3	100.0%	100.0%	100.0%	99.8%	Hyperphosphatasia with impaired intellectual development syndrome 4, 615716

PGM1	94.0%	94.0%	100.0%	99.1%	Congenital disorder of glycosylation, type It, 614921
PGM3	100.0%	100.0%	100.0%	99.6%	Immunodeficiency 23, 615816
PHGDH	100.0%	100.0%	100.0%	99.8%	Neu-Laxova syndrome 1, 256520 Phosphoglycerate dehydrogenase deficiency, 601815
PHKB	100.0%	100.0%	100.0%	99.5%	Phosphorylase kinase deficiency of liver and muscle, autosomal recessive, 261750
PHKG2	100.0%	100.0%	100.0%	99.5%	Glycogen storage disease IXc, 613027
PHOX2A	100.0%	100.0%	100.0%	99.7%	Fibrosis of extraocular muscles, congenital, 2, 602078
PHYH	100.0%	100.0%	100.0%	99.1%	Refsum disease, 266500
PI4KA	100.0%	99.8%	100.0%	99.5%	Spastic paraplegia 84, autosomal recessive, 619621 Gastrointestinal defects and immunodeficiency syndrome 2, 619708 Polymicrogyria, perisylvian, with cerebellar hypoplasia and arthrogryposis, 616531
PIBF1	100.0%	100.0%	100.0%	97.0%	Joubert syndrome 33, 617767
PIEZO1	100.0%	100.0%	100.0%	99.8%	Lymphatic malformation 6, 616843 Dehydrated hereditary stomatocytosis w/wo pseudohyperkalemia and/or perinatal edema, 194380
PIEZO2	100.0%	100.0%	100.0%	99.5%	Arthrogryposis, distal, type 5, 108145 Arthrogryposis, distal, with impaired proprioception and touch, 617146 Arthrogryposis, distal, type 3, 114300 ?Marden-Walker syndrome, 248700
PIGB	100.0%	100.0%	100.0%	98.9%	Developmental and epileptic encephalopathy 80, 618580
PIGC	100.0%	100.0%	100.0%	100.0%	Glycosylphosphatidylinositol biosynthesis defect 16, 617816
PIGG	100.0%	100.0%	100.0%	99.5%	Neurodevelopmental disorder w/wo hypotonia, seizures, and cerebellar atrophy, 616917
PIGH	80.9%	75.0%	100.0%	99.5%	Glycosylphosphatidylinositol biosynthesis defect 17, 618010
PIGK	100.0%	100.0%	100.0%	98.9%	Neurodevelopmental disorder with hypotonia and cerebellar atrophy, w/wo seizures, 618879
PIGL	100.0%	100.0%	100.0%	98.8%	CHIME syndrome, 280000
PIGM	100.0%	100.0%	100.0%	99.2%	Glycosylphosphatidylinositol deficiency, 610293
PIGN	100.0%	99.9%	100.0%	99.2%	Multiple congenital anomalies-hypotonia-seizures syndrome 1, 614080
PIGO	100.0%	100.0%	100.0%	99.9%	Hyperphosphatasia with impaired intellectual development syndrome 2, 614749
PIGP	100.0%	100.0%	100.0%	99.2%	Developmental and epileptic encephalopathy 55, 617599
PIGQ	100.0%	100.0%	100.0%	99.9%	Multiple congenital anomalies-hypotonia-seizures syndrome 4, 618548
PIGS	100.0%	100.0%	100.0%	99.7%	Developmental and epileptic encephalopathy 95, 618143
PIGT	100.0%	100.0%	100.0%	99.3%	?Paroxysmal nocturnal hemoglobinuria 2, 615399 Multiple congenital anomalies-hypotonia-seizures syndrome 3, 615398
PIGU	100.0%	100.0%	100.0%	99.6%	Neurodevelopmental disorder with brain anomalies, seizures, and scoliosis, 618590
PIGV	100.0%	100.0%	100.0%	99.8%	Hyperphosphatasia with impaired intellectual development syndrome 1, 239300

PIGW	100.0%	100.0%	100.0%	99.6%	Glycosylphosphatidylinositol biosynthesis defect 11, 616025
PIGY	100.0%	100.0%	100.0%	99.3%	Hyperphosphatasia with impaired intellectual development syndrome 6, 616809
PIK3C2A	100.0%	100.0%	100.0%	99.3%	Oculoskeletodental syndrome, 618440
PIK3R1	100.0%	100.0%	100.0%	99.2%	Immunodeficiency 36, 616005 ?Agammaglobulinemia 7, autosomal recessive, 615214 SHORT syndrome, 269880
PIK3R5	100.0%	100.0%	100.0%	99.7%	Ataxia-oculomotor apraxia 3, 615217
PINK1	100.0%	100.0%	100.0%	99.7%	Parkinson disease 6, early onset, 605909
PIP5K1C	100.0%	100.0%	100.0%	99.4%	Lethal congenital contractural syndrome 3, 611369
PJVK	100.0%	100.0%	100.0%	99.4%	Deafness, autosomal recessive 59, 610220
PKD1L1	100.0%	100.0%	100.0%	99.4%	Heterotaxy, visceral, 8, autosomal, 617205
PKHD1	100.0%	100.0%	100.0%	99.6%	Polycystic kidney disease 4, w/wo hepatic disease, 263200
PKLR	100.0%	100.0%	100.0%	99.8%	Adenosine triphosphate, elevated, of erythrocytes, 102900 Pyruvate kinase deficiency, 266200
PKP1	100.0%	100.0%	100.0%	99.7%	Ectodermal dysplasia/skin fragility syndrome, 604536
PLA2G6	100.0%	99.9%	100.0%	99.4%	Parkinson disease 14, autosomal recessive, 612953 Neurodegeneration with brain iron accumulation 2B, 610217 Infantile neuroaxonal dystrophy 1, 256600
PLA2G7	100.0%	100.0%	100.0%	99.0%	Platelet-activating factor acetylhydrolase deficiency, 614278
PLAA	100.0%	100.0%	100.0%	99.6%	Neurodevelopmental disorder with progressive microcephaly, spasticity, and brain anomalies, 617527
PLCB1	100.0%	100.0%	100.0%	99.2%	Developmental and epileptic encephalopathy 12, 613722
PLCB4	100.0%	99.9%	100.0%	99.3%	Auriculocondylar syndrome 2B, 620458 Auriculocondylar syndrome 2A, 614669
PLCD1	100.0%	100.0%	100.0%	100.0%	Nail disorder, nonsyndromic congenital, 3, (leukonychia), 151600
PLCE1	100.0%	99.8%	100.0%	99.2%	Nephrotic syndrome, type 3, 610725
PLD1	100.0%	100.0%	100.0%	99.3%	Cardiac valvular dysplasia 1, 212093
PLEC	100.0%	100.0%	100.0%	100.0%	?Epidermolysis bullosa simplex 5D, generalized intermediate, autosomal recessive, 616487 Epidermolysis bullosa simplex 5B, with muscular dystrophy, 226670 Epidermolysis bullosa simplex 5C, with pyloric atresia, 612138 Epidermolysis bullosa simplex 5A, Ogna type, 131950 Muscular dystrophy, limb-girdle, autosomal recessive 17, 613723
PLEKHG2	100.0%	100.0%	100.0%	99.6%	Leukodystrophy and acquired microcephaly w/wo dystonia, 616763
PLEKHG5	100.0%	100.0%	100.0%	99.9%	Spinal muscular atrophy, distal, autosomal recessive, 4, 611067 Charcot-Marie-Tooth disease, recessive intermediate C, 615376

PLEKHM1	100.0%	100.0%	100.0%	99.5%	?Osteopetrosis, autosomal recessive 6, 611497 Osteopetrosis, autosomal dominant 3, 618107
PLG	100.0%	100.0%	100.0%	99.4%	Dysplasminogenemia, 217090 Angioedema, hereditary, 4, 619360 Plasminogen deficiency, type I, 217090
PLK4	100.0%	100.0%	100.0%	99.1%	Microcephaly and chorioretinopathy, autosomal recessive, 2, 616171
PLOD1	100.0%	100.0%	100.0%	99.0%	Ehlers-Danlos syndrome, kyphoscoliotic type, 1, 225400
PLOD2	100.0%	100.0%	99.9%	98.4%	Bruck syndrome 2, 609220
PLOD3	100.0%	100.0%	100.0%	99.4%	Lysyl hydroxylase 3 deficiency, 612394
PLPBP	100.0%	100.0%	100.0%	99.5%	Epilepsy, early-onset, 1, vitamin B6-dependent, 617290
PLVAP	100.0%	100.0%	100.0%	99.8%	Diarrhea 10, protein-losing enteropathy type, 618183
PMM2	100.0%	100.0%	100.0%	98.7%	Congenital disorder of glycosylation, type Ia, 212065
PMPCA	100.0%	100.0%	100.0%	99.8%	Spinocerebellar ataxia, autosomal recessive 2, 213200
PMPCB	100.0%	100.0%	100.0%	99.4%	Multiple mitochondrial dysfunctions syndrome 6, 617954
PMS2	100.0%	100.0%	99.7%	96.6%	Lynch syndrome 4, 614337 Mismatch repair cancer syndrome 4, 619101
PNKP	100.0%	100.0%	100.0%	99.9%	?Charcot-Marie-Tooth disease, type 2B2, 605589 Ataxia-oculomotor apraxia 4, 616267 Microcephaly, seizures, and developmental delay, 613402
PNLIP	100.0%	100.0%	100.0%	99.3%	?Pancreatic lipase deficiency, 614338
PNP	100.0%	100.0%	100.0%	99.8%	Immunodeficiency due to purine nucleoside phosphorylase deficiency, 613179
PNPLA1	100.0%	99.9%	100.0%	98.3%	Ichthyosis, congenital, autosomal recessive 10, 615024
PNPLA2	100.0%	100.0%	100.0%	99.8%	Neutral lipid storage disease with myopathy, 610717
PNPLA6	100.0%	100.0%	100.0%	99.9%	Spastic paraplegia 39, autosomal recessive, 612020 Oliver-McFarlane syndrome, 275400 ?Laurence-Moon syndrome, 245800 Boucher-Neuhauser syndrome, 215470
PNPLA8	100.0%	100.0%	100.0%	98.7%	?Mitochondrial myopathy with lactic acidosis, 251950
PNPO	100.0%	100.0%	100.0%	99.8%	Pyridoxamine 5'-phosphate oxidase deficiency, 610090
PNPT1	100.0%	100.0%	100.0%	99.3%	Spinocerebellar ataxia 25, 608703 Deafness, autosomal recessive 70, w/wo adult-onset neurodegeneration, 614934 Combined oxidative phosphorylation deficiency 13, 614932
POC1A	100.0%	100.0%	100.0%	99.8%	Short stature, onychodysplasia, facial dysmorphism, and hypotrichosis, 614813
POC1B	100.0%	100.0%	100.0%	99.6%	Cone-rod dystrophy 20, 615973

POGLUT1	100.0%	100.0%	100.0%	99.3%	Dowling-Degos disease 4, 615696 Muscular dystrophy, limb-girdle, autosomal recessive 21, 617232
POLE	100.0%	100.0%	100.0%	99.7%	FILS syndrome, 615139 IMAGE-I syndrome, 618336
POLG	100.0%	100.0%	100.0%	99.8%	Mitochondrial recessive ataxia syndrome (includes SANDO and SCAE), 607459 Mitochondrial DNA depletion syndrome 4B (MNGIE type), 613662 Mitochondrial DNA depletion syndrome 4A (Alpers type), 203700 Progressive external ophthalmoplegia, autosomal dominant 1, 157640 Progressive external ophthalmoplegia, autosomal recessive 1, 258450
POLH	100.0%	100.0%	100.0%	99.7%	Xeroderma pigmentosum, variant type, 278750
POLR1C	83.3%	83.2%	100.0%	99.8%	Leukodystrophy, hypomyelinating, 11, 616494 Treacher Collins syndrome 3, 248390
POLR1D	100.0%	100.0%	100.0%	99.7%	Treacher Collins syndrome 2, 613717
POLR3A	100.0%	100.0%	100.0%	99.5%	Wiedemann-Rautenstrauch syndrome, 264090 Leukodystrophy, hypomyelinating, 7, w/wo oligodontia and/or hypogonadotropic hypogonadism, 607694
POLR3B	100.0%	99.9%	100.0%	99.0%	Leukodystrophy, hypomyelinating, 8, w/wo oligodontia and/or hypogonadotropic hypogonadism, 614381 Charcot-Marie-Tooth disease, demyelinating, type 1I, 619742
POMC	100.0%	100.0%	100.0%	99.8%	Obesity, adrenal insufficiency, and red hair due to POMC deficiency, 609734
POMGNT1	100.0%	100.0%	100.0%	99.9%	Muscular dystrophy-dystroglycanopathy (limb-girdle), type C, 3, 613157 Muscular dystrophy-dystroglycanopathy (congenital with impaired intellectual development), type B, 3, 613151 Retinitis pigmentosa 76, 617123 Muscular dystrophy-dystroglycanopathy (congenital with brain and eye anomalies), type A, 3, 253280
POMGNT2	100.0%	100.0%	100.0%	99.9%	Muscular dystrophy-dystroglycanopathy (congenital with brain and eye anomalies), type A, 8, 614830 Muscular dystrophy-dystroglycanopathy (limb-girdle) type C, 8, 618135
POMK	100.0%	100.0%	100.0%	99.7%	?Muscular dystrophy-dystroglycanopathy (limb-girdle), type C, 12, 616094 Muscular dystrophy-dystroglycanopathy (congenital with brain and eye anomalies), type A, 12, 615249
POMP	100.0%	100.0%	100.0%	98.6%	Proteasome-associated autoinflammatory syndrome 2, 618048 Keratosis linearis with ichthyosis congenita and sclerosing keratoderma, 601952

POMT1	100.0%	100.0%	100.0%	99.7%	Muscular dystrophy-dystroglycanopathy (congenital with brain and eye anomalies), type A, 1, 236670 Muscular dystrophy-dystroglycanopathy (limb-girdle), type C, 1, 609308 Muscular dystrophy-dystroglycanopathy (congenital with impaired intellectual development), type B, 1, 613155
POMT2	100.0%	100.0%	100.0%	98.8%	Muscular dystrophy-dystroglycanopathy (limb-girdle), type C, 2, 613158 Muscular dystrophy-dystroglycanopathy (congenital with brain and eye anomalies), type A, 2, 613150 Muscular dystrophy-dystroglycanopathy (congenital with impaired intellectual development), type B, 2, 613156
POP1	100.0%	100.0%	100.0%	99.5%	Anauxetic dysplasia 2, 617396
POR	100.0%	100.0%	100.0%	100.0%	Antley-Bixler syndrome with genital anomalies and disordered steroidogenesis, 201750 Disordered steroidogenesis due to cytochrome P450 oxidoreductase, 613571
POU1F1	100.0%	100.0%	100.0%	99.6%	Pituitary hormone deficiency, combined or isolated, 1, 613038
PPA2	100.0%	99.9%	100.0%	98.7%	?Sudden cardiac failure, alcohol-induced, 617223 Sudden cardiac failure, infantile, 617222
PPCS	100.0%	100.0%	100.0%	99.8%	Cardiomyopathy, dilated, 2C, 618189
PPIB	100.0%	100.0%	100.0%	99.6%	Osteogenesis imperfecta, type IX, 259440
PPIL1	100.0%	100.0%	100.0%	99.6%	Pontocerebellar hypoplasia, type 14, 619301
PPIP5K2	100.0%	100.0%	100.0%	99.7%	Deafness, autosomal recessive 100, 618422
PPM1K	100.0%	100.0%	100.0%	99.6%	?Maple syrup urine disease, mild variant, 615135
PPP1R15B	100.0%	100.0%	100.0%	99.1%	Microcephaly, short stature, and impaired glucose metabolism 2, 616817
PPP1R21	100.0%	100.0%	100.0%	99.1%	Neurodevelopmental disorder with hypotonia, facial dysmorphism, and brain abnormalities, 619383
PPP2R3C	100.0%	100.0%	100.0%	99.3%	Spermatogenic failure 36, 618420 Myoectodermal gonadal dysgenesis syndrome, 618419
PPT1	90.3%	90.3%	100.0%	99.4%	Ceroid lipofuscinosis, neuronal, 1, 256730
PRCD	100.0%	100.0%	100.0%	96.3%	Retinitis pigmentosa 36, 610599
PRDM12	95.7%	92.4%	100.0%	99.0%	Neuropathy, hereditary sensory and autonomic, type VIII, 616488
PRDM13	100.0%	100.0%	100.0%	99.6%	Pontocerebellar hypoplasia, type 17, 619909 Cerebellar dysfunction, impaired intellectual development, and hypogonadotropic hypogonadism, 619761
PRDM5	100.0%	100.0%	100.0%	99.4%	Brittle cornea syndrome 2, 614170
PRDX1	100.0%	100.0%	100.0%	97.9%	Methylmalonic aciduria and homocystinuria, cblC type, digenic, 277400
PREPL	100.0%	100.0%	100.0%	99.0%	Myasthenic syndrome, congenital, 22, 616224

PRF1	100.0%	100.0%	100.0%	100.0%	Hemophagocytic lymphohistiocytosis, familial, 2, 603553 Aplastic anemia, 609135 Lymphoma, non-Hodgkin, 605027
PRG4	100.0%	100.0%	99.9%	95.2%	Camptodactyly-arthropathy-coxa vara-pericarditis syndrome, 208250
PRICKLE1	100.0%	100.0%	100.0%	99.1%	Epilepsy, progressive myoclonic 1B, 612437
PRKCD	100.0%	100.0%	100.0%	99.8%	Autoimmune lymphoproliferative syndrome, type III, 615559
PRKDC	100.0%	100.0%	100.0%	99.4%	Immunodeficiency 26, w/wo neurologic abnormalities, 615966
PRKN	91.9%	91.1%	100.0%	99.2%	Adenocarcinoma of lung, somatic, 211980 Parkinson disease, juvenile, type 2, 600116 Ovarian cancer, somatic, 167000
PRKRA	100.0%	100.0%	100.0%	99.4%	Dystonia 16, 612067
PRMT7	100.0%	100.0%	100.0%	99.9%	Short stature, brachydactyly, intellectual developmental disability, and seizures, 617157
PROC	100.0%	100.0%	100.0%	100.0%	Thrombophilia 3 due to protein C deficiency, autosomal dominant, 176860 Thrombophilia 3 due to protein C deficiency, autosomal recessive, 612304
PRODH	100.0%	100.0%	100.0%	99.9%	Hyperprolinemia, type I, 239500
PROM1	100.0%	100.0%	100.0%	99.1%	Macular dystrophy, retinal, 2, 608051 Retinitis pigmentosa 41, 612095 Stargardt disease 4, 603786 Cone-rod dystrophy 12, 612657
PROP1	100.0%	100.0%	99.9%	96.3%	Pituitary hormone deficiency, combined, 2, 262600
PRORP	100.0%	100.0%	100.0%	99.1%	Combined oxidative phosphorylation deficiency 54, 619737
PROS1	100.0%	100.0%	100.0%	99.4%	Thrombophilia 5 due to protein S deficiency, autosomal recessive, 614514 Thrombophilia 5 due to protein S deficiency, autosomal dominant, 612336
PRSS12	100.0%	100.0%	100.0%	99.8%	Intellectual developmental disorder, autosomal recessive 1, 249500
PRSS56	100.0%	100.0%	100.0%	99.8%	Microphthalmia, isolated 6, 613517
PRUNE1	93.4%	93.1%	100.0%	99.2%	Neurodevelopmental disorder with microcephaly, hypotonia, and variable brain anomalies, 617481
PRX	100.0%	100.0%	100.0%	99.8%	Charcot-Marie-Tooth disease, type 4F, 614895 Dejerine-Sottas disease, 145900
PSAP	100.0%	100.0%	100.0%	99.8%	Combined SAP deficiency, 611721 Krabbe disease, atypical, 611722 Metachromatic leukodystrophy due to SAP-b deficiency, 249900 Gaucher disease, atypical, 610539
PSAT1	100.0%	100.0%	100.0%	99.3%	Neu-Laxova syndrome 2, 616038 ?Phosphoserine aminotransferase deficiency, 610992
PSMB4	100.0%	100.0%	100.0%	98.8%	?Proteasome-associated autoinflammatory syndrome 3 and digenic forms, 617591

PSMB8	100.0%	100.0%	100.0%	99.2%	Proteasome-associated autoinflammatory syndrome 1 and digenic forms, 256040
PSMB9	100.0%	100.0%	100.0%	99.5%	?Proteasome-associated autoinflammatory syndrome 3, digenic, 617591
PSMC3IP	100.0%	100.0%	100.0%	99.6%	Ovarian dysgenesis 3, 614324
PSPH	100.0%	100.0%	100.0%	98.8%	Phosphoserine phosphatase deficiency, 614023
PTF1A	100.0%	100.0%	100.0%	98.6%	Pancreatic and cerebellar agenesis, 609069 Pancreatic agenesis 2, 615935
PTH1R	100.0%	100.0%	100.0%	99.7%	Metaphyseal chondrodysplasia, Murk Jansen type, 156400 Eiken syndrome, 600002 Failure of tooth eruption, primary, 125350 Chondrodysplasia, Blomstrand type, 215045
PTPN14	100.0%	100.0%	100.0%	99.7%	Choanal atresia and lymphedema, 613611
PTPN23	100.0%	100.0%	100.0%	99.5%	Neurodevelopmental disorder and structural brain anomalies w/wo seizures and spasticity, 618890
PTPRC	100.0%	99.8%	100.0%	99.3%	Immunodeficiency 105, severe combined, 619924
PTPRO	99.8%	99.1%	100.0%	99.5%	Nephrotic syndrome, type 6, 614196
PTPRQ	91.9%	91.9%	100.0%	99.4%	Deafness, autosomal dominant 73, 617663 Deafness, autosomal recessive 84A, 613391
PTRH2	100.0%	100.0%	100.0%	99.9%	Infantile-onset multisystem neurologic, endocrine, and pancreatic disease, 616263
PTS	100.0%	100.0%	100.0%	99.0%	Hyperphenylalaninemia, BH4-deficient, A, 261640
PUS1	100.0%	100.0%	100.0%	99.8%	Myopathy, lactic acidosis, and sideroblastic anemia 1, 600462
PUS3	100.0%	100.0%	100.0%	99.7%	Neurodevelopmental disorder with microcephaly and gray sclerae, 617051
PUS7	100.0%	100.0%	100.0%	99.1%	Intellectual developmental disorder with abnormal behavior, microcephaly, and short stature, 618342
PXDN	100.0%	100.0%	100.0%	99.8%	Anterior segment dysgenesis 7, with sclerocornea, 269400
PYCR1	100.0%	100.0%	100.0%	100.0%	Cutis laxa, autosomal recessive, type IIIB, 614438 Cutis laxa, autosomal recessive, type IIB, 612940
PYCR2	100.0%	100.0%	100.0%	99.9%	Leukodystrophy, hypomyelinating, 10, 616420
PYGL	100.0%	100.0%	100.0%	99.5%	Glycogen storage disease VI, 232700
PYGM	100.0%	100.0%	100.0%	99.9%	McArdle disease, 232600
PYROXD1	100.0%	100.0%	100.0%	99.0%	Myopathy, myofibrillar, 8, 617258
QARS1	100.0%	100.0%	100.0%	99.7%	Microcephaly, progressive, seizures, and cerebral and cerebellar atrophy, 615760
QDPR	100.0%	100.0%	100.0%	98.9%	Hyperphenylalaninemia, BH4-deficient, C, 261630
RAB18	100.0%	100.0%	100.0%	99.6%	Warburg micro syndrome 3, 614222
RAB23	100.0%	100.0%	100.0%	98.9%	Carpenter syndrome, 201000
RAB27A	100.0%	100.0%	100.0%	100.0%	Griscelli syndrome, type 2, 607624
RAB28	100.0%	100.0%	100.0%	99.5%	Cone-rod dystrophy 18, 615374
RAB33B	100.0%	100.0%	100.0%	99.5%	Smith-McCort dysplasia 2, 615222

RAB3GAP1	99.0%	99.0%	100.0%	99.0%	Martsolf syndrome 2, 619420 Warburg micro syndrome 1, 600118
RAB3GAP2	100.0%	100.0%	100.0%	99.0%	Martsolf syndrome 1, 212720 Warburg micro syndrome 2, 614225
RAD50	100.0%	100.0%	100.0%	98.7%	Nijmegen breakage syndrome-like disorder, 613078
RAD51C	100.0%	100.0%	100.0%	98.9%	Fanconi anemia, complementation group O, 613390
RAG1	100.0%	100.0%	100.0%	99.7%	Omenn syndrome, 603554 Severe combined immunodeficiency, B cell-negative, 601457 Combined cellular and humoral immune defects with granulomas, 233650 Alpha/beta T-cell lymphopenia with gamma/delta T-cell expansion, severe cytomegalovirus infection, and autoimmunity, 609889
RAG2	100.0%	100.0%	100.0%	99.3%	Severe combined immunodeficiency, B cell-negative, 601457 Combined cellular and humoral immune defects with granulomas, 233650 Omenn syndrome, 603554
RALGAPA1	100.0%	99.9%	100.0%	99.3%	Neurodevelopmental disorder with hypotonia, neonatal respiratory insufficiency, and thermodysregulation, 618797
RAPSN	100.0%	100.0%	100.0%	99.9%	Fetal akinesia deformation sequence 2, 618388 Myasthenic syndrome, congenital, 11, associated with acetylcholine receptor deficiency, 616326
RARB	100.0%	100.0%	100.0%	99.8%	Microphthalmia, syndromic 12, 615524
RARS1	94.4%	94.3%	100.0%	98.8%	Leukodystrophy, hypomyelinating, 9, 616140
RARS2	100.0%	100.0%	100.0%	99.5%	Pontocerebellar hypoplasia, type 6, 611523
RASGRP1	100.0%	100.0%	100.0%	99.8%	Immunodeficiency 64, 618534
RAX	100.0%	100.0%	100.0%	99.5%	Microphthalmia, syndromic 16, 611038
RBBP8	100.0%	100.0%	100.0%	98.7%	Seckel syndrome 2, 606744 Jawad syndrome, 251255 Pancreatic carcinoma, somatic,
RBCK1	100.0%	100.0%	100.0%	99.6%	Polyglucosan body myopathy 1 w/wo immunodeficiency, 615895
RBM8A	100.0%	100.0%	100.0%	99.2%	Thrombocytopenia-absent radius syndrome, 274000
RBP3	100.0%	100.0%	100.0%	99.9%	?Retinitis pigmentosa 66, 615233
RBP4	100.0%	100.0%	100.0%	99.6%	Microphthalmia, isolated, with coloboma 10, 616428 Retinal dystrophy, iris coloboma, and comedogenic acne syndrome, 615147
RCBTB1	100.0%	100.0%	100.0%	99.6%	Retinal dystrophy w/wo extraocular anomalies, 617175
RD3	100.0%	100.0%	100.0%	100.0%	Leber congenital amaurosis 12, 610612
RDH11	100.0%	100.0%	100.0%	99.7%	?Retinal dystrophy, juvenile cataracts, and short stature syndrome, 616108

RDH12	100.0%	100.0%	100.0%	99.5%	Leber congenital amaurosis 13, 612712
RDH5	100.0%	100.0%	100.0%	99.8%	Fundus albipunctatus, 136880
RDX	100.0%	100.0%	100.0%	99.4%	Deafness, autosomal recessive 24, 611022
RECQL4	100.0%	100.0%	100.0%	100.0%	Baller-Gerold syndrome, 218600 Rothmund-Thomson syndrome, type 2, 268400 RAPADILINO syndrome, 266280
REEP2	100.0%	100.0%	100.0%	99.7%	?Spastic paraplegia 72, autosomal dominant, 615625 ?Spastic paraplegia 72, autosomal recessive, 615625
REEP6	100.0%	100.0%	100.0%	99.6%	Retinitis pigmentosa 77, 617304
RELB	100.0%	99.9%	100.0%	99.7%	?Immunodeficiency 53, 617585
RELN	99.9%	99.7%	100.0%	99.5%	Lissencephaly 2 (Norman-Roberts type), 257320
REN	100.0%	100.0%	100.0%	99.1%	Renal tubular dysgenesis, 267430 Tubulointerstitial kidney disease, autosomal dominant, 4, 613092
REPS1	100.0%	100.0%	100.0%	99.4%	?Neurodegeneration with brain iron accumulation 7, 617916
RETREG1	100.0%	100.0%	100.0%	99.2%	Neuropathy, hereditary sensory and autonomic, type IIB, 613115
RFC1	100.0%	100.0%	100.0%	98.5%	Cerebellar ataxia, neuropathy, and vestibular areflexia syndrome, 614575
RFT1	100.0%	100.0%	100.0%	99.4%	Congenital disorder of glycosylation, type In, 612015
RFWD3	100.0%	100.0%	100.0%	99.3%	?Fanconi anemia, complementation group W, 617784
RFX5	100.0%	100.0%	100.0%	99.4%	Bare lymphocyte syndrome, type II, complementation group C, 209920 Bare lymphocyte syndrome, type II, complementation group E, 209920
RFX6	100.0%	100.0%	100.0%	99.4%	Mitchell-Riley syndrome, 615710
RFXANK	100.0%	100.0%	100.0%	100.0%	Bare lymphocyte syndrome, type II, complementation group B, 209920
RFXAP	100.0%	100.0%	100.0%	99.4%	Bare lymphocyte syndrome, type II, complementation group D, 209920
RGR	100.0%	100.0%	100.0%	99.9%	Retinitis pigmentosa 44, 613769
RHO	100.0%	100.0%	100.0%	99.8%	Night blindness, congenital stationary, autosomal dominant 1, 610445 Retinitis pigmentosa 4, autosomal dominant or recessive, 613731 Retinitis punctata albescens, 136880
RIMS2	100.0%	99.9%	100.0%	99.2%	Cone-rod synaptic disorder syndrome, congenital nonprogressive, 618970
RIN2	100.0%	100.0%	100.0%	99.1%	Macrocephaly, alopecia, cutis laxa, and scoliosis, 613075
RINT1	100.0%	100.0%	100.0%	99.3%	Infantile liver failure syndrome 3, 618641
RIPK1	100.0%	100.0%	100.0%	99.3%	Immunodeficiency 57 with autoinflammation, 618108 Autoinflammation with episodic fever and lymphadenopathy, 618852
RIPK4	100.0%	100.0%	100.0%	99.9%	CHAND syndrome, 214350 Popliteal pterygium syndrome, Bartsocas-Papas type 1, 263650

RIPOR2	100.0%	100.0%	100.0%	99.2%	Deafness, autosomal dominant 21, 607017 ?Deafness, autosomal recessive 104, 616515
RIPPLY2	100.0%	100.0%	100.0%	97.5%	?Spondylocostal dysostosis 6, 616566
RLBP1	100.0%	100.0%	100.0%	99.7%	Bothnia retinal dystrophy, 607475 Newfoundland rod-cone dystrophy, 607476 Retinitis punctata albescens, 136880 Fundus albipunctatus, 136880
RMND1	100.0%	100.0%	100.0%	99.3%	Combined oxidative phosphorylation deficiency 11, 614922
RMRP					Anauxetic dysplasia 1, 607095 Metaphyseal dysplasia without hypotrichosis, 250460 Cartilage-hair hypoplasia, 250250
RNASEH1	100.0%	100.0%	100.0%	99.3%	Progressive external ophthalmoplegia with mitochondrial DNA deletions, autosomal recessive 2, 616479
RNASEH2A	100.0%	100.0%	100.0%	99.9%	Aicardi-Goutieres syndrome 4, 610333
RNASEH2B	91.4%	91.4%	100.0%	98.7%	Aicardi-Goutieres syndrome 2, 610181
RNASEH2C	100.0%	100.0%	100.0%	99.7%	Aicardi-Goutieres syndrome 3, 610329
RNASET2	100.0%	100.0%	100.0%	99.3%	Leukoencephalopathy, cystic, without megalencephaly, 612951
RNF168	100.0%	100.0%	100.0%	99.4%	RIDDLE syndrome, 611943
RNF216	100.0%	100.0%	100.0%	99.4%	Cerebellar ataxia and hypogonadotropic hypogonadism, 212840
RNPC3	100.0%	100.0%	100.0%	98.6%	Pituitary hormone deficiency, combined or isolated, 7, 618160
ROBO3	100.0%	100.0%	100.0%	99.4%	Gaze palsy, familial horizontal, with progressive scoliosis, 1, 607313
ROGDI	100.0%	100.0%	100.0%	99.8%	Kohlschutter-Tonz syndrome, 226750
ROR2	100.0%	100.0%	100.0%	99.8%	Brachydactyly, type B1, 113000 Robinow syndrome, autosomal recessive, 268310
RORC	100.0%	100.0%	100.0%	99.9%	Immunodeficiency 42, 616622
RP1	100.0%	100.0%	100.0%	97.8%	Retinitis pigmentosa 1, 180100
RP1L1	100.0%	100.0%	100.0%	99.4%	Occult macular dystrophy, 613587 Retinitis pigmentosa 88, 618826
RPE65	100.0%	100.0%	100.0%	99.0%	Retinitis pigmentosa 20, 613794 Retinitis pigmentosa 87 with choroidal involvement, 618697 Leber congenital amaurosis 2, 204100
RPGRIP1	100.0%	100.0%	100.0%	99.2%	Cone-rod dystrophy 13, 608194 Leber congenital amaurosis 6, 613826
RPGRIP1L	100.0%	100.0%	100.0%	98.8%	Joubert syndrome 7, 611560 Meckel syndrome 5, 611561 ?COACH syndrome 3, 619113

RPIA	100.0%	100.0%	100.0%	99.5%	Ribose 5-phosphate isomerase deficiency, 608611
RRM2B	100.0%	100.0%	100.0%	98.9%	Mitochondrial DNA depletion syndrome 8B (MNGIE type), 612075 Mitochondrial DNA depletion syndrome 8A (encephalomyopathic type with renal tubulopathy), 612075 Rod-cone dystrophy, sensorineural deafness, and Fanconi-type renal dysfunction, 268315 Progressive external ophthalmoplegia with mitochondrial DNA deletions, autosomal dominant 5, 613077
RSPH1	100.0%	100.0%	100.0%	99.7%	Ciliary dyskinesia, primary, 24, 615481
RSPH3	100.0%	100.0%	100.0%	99.5%	Ciliary dyskinesia, primary, 32, 616481
RSPH4A	100.0%	100.0%	100.0%	98.4%	Ciliary dyskinesia, primary, 11, 612649
RSPH9	100.0%	100.0%	100.0%	99.7%	Ciliary dyskinesia, primary, 12, 612650
RSPO1	100.0%	100.0%	100.0%	99.9%	Palmoplantar hyperkeratosis and true hermaphroditism, 610644 Palmoplantar hyperkeratosis with squamous cell carcinoma of skin and sex reversal, 610644
RSPO2	100.0%	99.9%	100.0%	99.5%	?Humerofemoral hypoplasia with radiotibial ray deficiency, 618022 Tetraamelia syndrome 2, 618021
RSPO4	100.0%	100.0%	100.0%	99.7%	Anonychia congenita, 206800
RSPRY1	100.0%	100.0%	100.0%	99.2%	Spondyloepimetaphyseal dysplasia, Faden-Alkuraya type, 616723
RSRC1	100.0%	99.9%	100.0%	99.5%	Intellectual developmental disorder, autosomal recessive 70, 618402
RTEL1	100.0%	100.0%	100.0%	99.9%	Dyskeratosis congenita, autosomal dominant 4, 615190 Dyskeratosis congenita, autosomal recessive 5, 615190 Pulmonary fibrosis and/or bone marrow failure syndrome, telomere-related, 3, 616373
RTN4IP1	100.0%	100.0%	100.0%	99.4%	Optic atrophy 10 w/wo ataxia, impaired intellectual development and seizures, 616732
RTTN	100.0%	99.9%	100.0%	99.4%	Microcephaly, short stature, and polymicrogyria with seizures, 614833
RUBCN	100.0%	100.0%	100.0%	99.5%	Spinocerebellar ataxia, autosomal recessive 15, 615705
RUSC2	100.0%	100.0%	100.0%	99.8%	Intellectual developmental disorder, autosomal recessive 61, 617773
RXYLT1	100.0%	100.0%	100.0%	99.9%	Muscular dystrophy-dystroglycanopathy (congenital with brain and eye anomalies), type A, 10, 615041
RYR1	100.0%	99.9%	100.0%	99.7%	Congenital myopathy 1B, autosomal recessive, 255320 Congenital myopathy 1A, autosomal dominant, with susceptibility to malignant hyperthermia, 117000 King-Denborough syndrome, 619542
S1PR2	100.0%	100.0%	100.0%	99.9%	Deafness, autosomal recessive 68, 610419
SACS	100.0%	100.0%	100.0%	99.2%	Spastic ataxia, Charlevoix-Saguenay type, 270550
SAG	100.0%	100.0%	100.0%	99.4%	Retinitis pigmentosa 47, autosomal recessive, 613758 Retinitis pigmentosa 96, autosomal dominant, 620228 Oguchi disease-1, 258100

SAMD9	100.0%	100.0%	100.0%	99.0%	Tumoral calcinosis, familial, normophosphatemic, 610455 Monosomy 7 myelodysplasia and leukemia syndrome 2, 619041 MIRAGE syndrome, 617053
SAMHD1	100.0%	100.0%	100.0%	99.3%	?Chilblain lupus 2, 614415 Aicardi-Goutieres syndrome 5, 612952
SAR1B	100.0%	100.0%	100.0%	98.3%	Chylomicron retention disease, 246700
SARS1	100.0%	100.0%	100.0%	99.5%	Neurodevelopmental disorder with microcephaly, ataxia, and seizures, 617709
SARS2	100.0%	100.0%	100.0%	99.5%	Hyperuricemia, pulmonary hypertension, renal failure, and alkalosis, 613845
SASH1	100.0%	100.0%	100.0%	99.3%	Dyschromatosis universalis hereditaria 1, 127500 ?Cancer, alopecia, pigment dyscrasia, onychodystrophy, and keratoderma, 618373
SASS6	100.0%	100.0%	100.0%	98.7%	Microcephaly 14, primary, autosomal recessive, 616402
SBDS	100.0%	100.0%	100.0%	99.1%	Shwachman-Diamond syndrome 1, 260400
SBF1	100.0%	100.0%	100.0%	99.9%	Charcot-Marie-Tooth disease, type 4B3, 615284
SBF2	100.0%	100.0%	100.0%	99.2%	Charcot-Marie-Tooth disease, type 4B2, 604563
SC5D	100.0%	100.0%	100.0%	98.7%	Lathosterolosis, 607330
SCAPER	100.0%	100.0%	100.0%	99.2%	Intellectual developmental disorder and retinitis pigmentosa, 618195
SCARB2	100.0%	100.0%	100.0%	99.5%	Epilepsy, progressive myoclonic 4, w/wo renal failure, 254900
SCARF2	100.0%	100.0%	100.0%	98.3%	Van den Ende-Gupta syndrome, 600920
SCN1B	100.0%	100.0%	100.0%	99.7%	Generalized epilepsy with febrile seizures plus, type 1, 604233 Developmental and epileptic encephalopathy 52, 617350 Cardiac conduction defect, nonspecific, 612838 Atrial fibrillation, familial, 13, 615377 Brugada syndrome 5, 612838
SCN4A	100.0%	100.0%	100.0%	99.2%	Paramyotonia congenita, 168300 Hyperkalemic periodic paralysis, 170500 Congenital myopathy 22B, severe fetal, 620369 Hypokalemic periodic paralysis, type 2, 613345 Myotonia congenita, atypical, acetazolamide-responsive, 608390 Myasthenic syndrome, congenital, 16, 614198 Congenital myopathy 22A, classic, 620351
SCN9A	100.0%	99.9%	100.0%	98.9%	Erythermalgia, primary, 133020 Insensitivity to pain, congenital, 243000 Small fiber neuropathy, 133020 Paroxysmal extreme pain disorder, 167400 Neuropathy, hereditary sensory and autonomic, type IID, 243000

SCNN1A	100.0%	100.0%	100.0%	99.5%	Pseudohypoaldosteronism, type IB1, autosomal recessive, 264350 ?Liddle syndrome 3, 618126 Bronchiectasis w/wo elevated sweat chloride 2, 613021
SCNN1B	100.0%	100.0%	100.0%	99.7%	Bronchiectasis w/wo elevated sweat chloride 1, 211400 Pseudohypoaldosteronism, type IB2, autosomal recessive, 620125 Liddle syndrome 1, 177200
SCNN1G	100.0%	100.0%	100.0%	99.8%	Bronchiectasis w/wo elevated sweat chloride 3, 613071 Pseudohypoaldosteronism, type IB3, autosomal recessive, 620126 Liddle syndrome 2, 618114
SCO1	100.0%	100.0%	100.0%	99.7%	Mitochondrial complex IV deficiency, nuclear type 4, 619048
SCO2	100.0%	100.0%	100.0%	99.7%	Myopia 6, 608908 Mitochondrial complex IV deficiency, nuclear type 2, 604377
SCP2	100.0%	100.0%	100.0%	99.3%	?Leukoencephalopathy with dystonia and motor neuropathy, 613724
SCYL1	100.0%	100.0%	100.0%	99.5%	Spinocerebellar ataxia, autosomal recessive 21, 616719
SDCCAG8	100.0%	100.0%	100.0%	99.0%	Senior-Loken syndrome 7, 613615 Bardet-Biedl syndrome 16, 615993
SDHA	100.0%	100.0%	100.0%	99.9%	Cardiomyopathy, dilated, 1GG, 613642 Mitochondrial complex II deficiency, nuclear type 1, 252011 Neurodegeneration with ataxia and late-onset optic atrophy, 619259 Paragangliomas 5, 614165
SDHAF1	100.0%	100.0%	100.0%	100.0%	Mitochondrial complex II deficiency, nuclear type 2, 619166
SDHB	100.0%	100.0%	100.0%	99.5%	Paragangliomas 4, 115310 Mitochondrial complex II deficiency, nuclear type 4, 619224 Gastrointestinal stromal tumor, 606764 Pheochromocytoma, 171300 Paraganglioma and gastric stromal sarcoma, 606864
SDHD	78.9%	78.9%	100.0%	99.6%	Paragangliomas 1, w/wo deafness, 168000 Paraganglioma and gastric stromal sarcoma, 606864 Mitochondrial complex II deficiency, nuclear type 3, 619167 Pheochromocytoma, 171300
SDR9C7	100.0%	100.0%	100.0%	99.7%	Ichthyosis, congenital, autosomal recessive 13, 617574
SEC23A	100.0%	100.0%	100.0%	99.1%	Craniolenticulosutural dysplasia, 607812
SEC23B	100.0%	100.0%	100.0%	99.3%	?Cowden syndrome 7, 616858 Dyserythropoietic anemia, congenital, type II, 224100
SEC24D	100.0%	99.9%	100.0%	99.6%	Cole-Carpenter syndrome 2, 616294

SEC31A	100.0%	100.0%	100.0%	99.1%	?Halperin-Birk syndrome, 618651
SECISBP2	100.0%	100.0%	100.0%	99.6%	Thyroid hormone metabolism, abnormal, 1, 609698
SELENON	93.1%	91.1%	100.0%	99.2%	Congenital myopathy 3 with rigid spine, 602771
SEMA4A	100.0%	100.0%	100.0%	98.7%	Retinitis pigmentosa 35, 610282 Cone-rod dystrophy 10, 610283
SEPSECS	100.0%	100.0%	100.0%	99.5%	Pontocerebellar hypoplasia type 2D, 613811
SERAC1	100.0%	100.0%	100.0%	99.1%	3-methylglutaconic aciduria with deafness, encephalopathy, and Leigh-like syndrome, 614739
SERPINA1	100.0%	100.0%	100.0%	99.5%	Hemorrhagic diathesis due to antithrombin Pittsburgh, 613490 Emphysema due to AAT deficiency, 613490 Emphysema-cirrhosis, due to AAT deficiency, 613490
SERPINA6	100.0%	100.0%	100.0%	99.7%	Corticosteroid-binding globulin deficiency, 611489
SERPINB7	100.0%	100.0%	100.0%	99.1%	Palmoplantar keratoderma, Nagashima type, 615598
SERPINB8	100.0%	100.0%	100.0%	99.1%	Peeling skin syndrome 5, 617115
SERPINC1	100.0%	100.0%	100.0%	99.7%	Thrombophilia 7 due to antithrombin III deficiency, 613118
SERPINE1	100.0%	100.0%	100.0%	99.0%	Plasminogen activator inhibitor-1 deficiency, 613329
SERPINF1	100.0%	100.0%	100.0%	99.4%	Osteogenesis imperfecta, type VI, 613982
SERPINF2	100.0%	100.0%	100.0%	99.2%	Alpha-2-plasmin inhibitor deficiency, 262850
SERPING1	100.0%	100.0%	100.0%	98.9%	Angioedema, hereditary, 1 and 2, 106100 Complement component 4, partial deficiency of, 120790
SERPINH1	100.0%	100.0%	100.0%	99.7%	Osteogenesis imperfecta, type X, 613848
SETX	100.0%	100.0%	100.0%	99.2%	Spinocerebellar ataxia, autosomal recessive, with axonal neuropathy 2, 606002 Amyotrophic lateral sclerosis 4, juvenile, 602433
SFRP4	100.0%	100.0%	100.0%	99.9%	Pyle disease, 265900
SFTPB	100.0%	100.0%	100.0%	99.9%	Surfactant metabolism dysfunction, pulmonary, 1, 265120
SFXN4	100.0%	100.0%	100.0%	97.9%	Combined oxidative phosphorylation deficiency 18, 615578
SGCA	100.0%	100.0%	100.0%	99.9%	Muscular dystrophy, limb-girdle, autosomal recessive 3, 608099
SGCB	100.0%	100.0%	100.0%	99.3%	Muscular dystrophy, limb-girdle, autosomal recessive 4, 604286
SGCD	100.0%	99.8%	100.0%	99.1%	Cardiomyopathy, dilated, 1L, 606685 Muscular dystrophy, limb-girdle, autosomal recessive 6, 601287
SGCG	100.0%	100.0%	100.0%	99.7%	Muscular dystrophy, limb-girdle, autosomal recessive 5, 253700
SGO1	100.0%	100.0%	100.0%	98.0%	Chronic atrial and intestinal dysrhythmia, 616201
SGPL1	100.0%	100.0%	100.0%	99.5%	RENI syndrome, 617575
SGSH	100.0%	100.0%	100.0%	99.9%	Mucopolysaccharidosis type IIIA (Sanfilippo A), 252900
SH3PXD2B	100.0%	100.0%	100.0%	99.5%	Frank-ter Haar syndrome, 249420

SH3TC2	100.0%	100.0%	100.0%	99.8%	Charcot-Marie-Tooth disease, type 4C, 601596 Mononeuropathy of the median nerve, mild, 613353
SI	99.0%	98.3%	100.0%	99.5%	Sucrase-isomaltase deficiency, congenital, 222900
SIGMAR1	100.0%	100.0%	100.0%	100.0%	?Spinal muscular atrophy, distal, autosomal recessive, 2, 605726 ?Amyotrophic lateral sclerosis 16, juvenile, 614373
SIK3	100.0%	100.0%	100.0%	99.5%	?Spondyloepimetaphyseal dysplasia, Krakow type, 618162
SIL1	100.0%	100.0%	100.0%	99.7%	Marinesco-Sjogren syndrome, 248800
SIX6	100.0%	100.0%	100.0%	100.0%	Optic disc anomalies with retinal and/or macular dystrophy, 212550
SKIV2L	100.0%	100.0%	100.0%	99.7%	Trichohepatoenteric syndrome 2, 614602
SLC10A7	100.0%	100.0%	100.0%	99.6%	Short stature, amelogenesis imperfecta, and skeletal dysplasia with scoliosis, 618363
SLC11A2	100.0%	100.0%	100.0%	99.5%	Anemia, hypochromic microcytic, with iron overload 1, 206100
SLC12A1	96.3%	96.2%	100.0%	99.4%	Bartter syndrome, type 1, 601678
SLC12A2	100.0%	100.0%	100.0%	98.9%	Kilquist syndrome, 619080 Delpire-McNeill syndrome, 619083 Deafness, autosomal dominant 78, 619081
SLC12A3	100.0%	100.0%	100.0%	99.5%	Gitelman syndrome, 263800
SLC12A5	100.0%	100.0%	100.0%	99.5%	Developmental and epileptic encephalopathy 34, 616645
SLC12A6	100.0%	100.0%	100.0%	99.5%	Agenesis of the corpus callosum with peripheral neuropathy, 218000 Charcot-Marie-Tooth disease, axonal, type 2II, 620068
SLC13A3	100.0%	100.0%	100.0%	99.4%	Leukoencephalopathy, acute reversible, with increased urinary alpha-ketoglutarate, 618384
SLC13A5	100.0%	100.0%	100.0%	99.8%	Developmental and epileptic encephalopathy 25, with amelogenesis imperfecta, 615905
SLC16A1	100.0%	100.0%	100.0%	100.0%	Hyperinsulinemic hypoglycemia, familial, 7, 610021 Erythrocyte lactate transporter defect, 245340 Monocarboxylate transporter 1 deficiency, 616095
SLC17A5	100.0%	100.0%	100.0%	99.1%	Salla disease, 604369 Sialic acid storage disorder, infantile, 269920
SLC18A2	100.0%	100.0%	100.0%	99.6%	?Parkinsonism-dystonia, infantile, 2, 618049
SLC18A3	100.0%	100.0%	100.0%	100.0%	Myasthenic syndrome, congenital, 21, presynaptic, 617239
SLC19A2	100.0%	100.0%	100.0%	99.6%	Thiamine-responsive megaloblastic anemia syndrome, 249270
SLC19A3	99.6%	98.4%	100.0%	99.6%	Thiamine metabolism dysfunction syndrome 2 (biotin- or thiamine-responsive encephalopathy type 2), 607483
SLC1A1	100.0%	100.0%	100.0%	99.5%	Dicarboxylic aminoaciduria, 222730
SLC1A4	100.0%	100.0%	100.0%	99.9%	Spastic tetraplegia, thin corpus callosum, and progressive microcephaly, 616657
SLC22A12	100.0%	99.8%	100.0%	97.9%	Hypouricemia, renal, 220150
SLC22A5	100.0%	100.0%	100.0%	99.6%	Carnitine deficiency, systemic primary, 212140
SLC24A1	100.0%	100.0%	100.0%	99.0%	Night blindness, congenital stationary (complete), 1D, autosomal recessive, 613830

SLC24A4	100.0%	100.0%	100.0%	99.6%	Amelogenesis imperfecta, type IIA5, 615887
SLC24A5	100.0%	99.6%	100.0%	99.5%	Albinism, oculocutaneous, type VI, 113750
SLC25A1	100.0%	100.0%	100.0%	99.0%	Combined D-2- and L-2-hydroxyglutaric aciduria, 615182 Myasthenic syndrome, congenital, 23, presynaptic, 618197
SLC25A12	100.0%	100.0%	100.0%	99.2%	Developmental and epileptic encephalopathy 39, 612949
SLC25A13	100.0%	100.0%	100.0%	99.5%	Citrullinemia, type II, neonatal-onset, 605814 Citrullinemia, adult-onset type II, 603471
SLC25A15	100.0%	100.0%	100.0%	99.9%	Hyperornithinemia-hyperammonemia-homocitrullinemia syndrome, 238970
SLC25A19	100.0%	100.0%	100.0%	99.5%	Microcephaly, Amish type, 607196 Thiamine metabolism dysfunction syndrome 4 (progressive polyneuropathy type), 613710
SLC25A20	100.0%	100.0%	100.0%	99.7%	Carnitine-acylcarnitine translocase deficiency, 212138
SLC25A22	100.0%	100.0%	100.0%	99.8%	Developmental and epileptic encephalopathy 3, 609304
SLC25A26	100.0%	100.0%	100.0%	99.2%	Combined oxidative phosphorylation deficiency 28, 616794
SLC25A3	100.0%	100.0%	100.0%	99.8%	Mitochondrial phosphate carrier deficiency, 610773
SLC25A38	100.0%	100.0%	100.0%	99.4%	Anemia, sideroblastic, 2, pyridoxine-refractory, 205950
SLC25A4	100.0%	100.0%	100.0%	99.5%	Mitochondrial DNA depletion syndrome 12B (cardiomyopathic type) AR, 615418 Progressive external ophthalmoplegia with mitochondrial DNA deletions, autosomal dominant 2, 609283 Mitochondrial DNA depletion syndrome 12A (cardiomyopathic type) AD, 617184
SLC25A42	100.0%	100.0%	100.0%	99.9%	Metabolic crises, recurrent, with variable encephalomyopathic features and neurologic regression, 618416
SLC25A46	100.0%	100.0%	100.0%	99.1%	Neuropathy, hereditary motor and sensory, type VIB, 616505 Pontocerebellar hypoplasia, type 1E, 619303
SLC26A1	100.0%	100.0%	100.0%	100.0%	?Hypersulfaturia, 620372 ?Nephrolithiasis, calcium oxalate, 1, 167030
SLC26A2	100.0%	100.0%	100.0%	99.4%	Epiphyseal dysplasia, multiple, 4, 226900 De la Chapelle dysplasia, 256050 Diastrophic dysplasia, 222600 Diastrophic dysplasia, broad bone-platyspondylic variant, 222600 Achondrogenesis Ib, 600972 Atelosteogenesis, type II, 256050
SLC26A3	100.0%	100.0%	100.0%	99.6%	Diarrhea 1, secretory chloride, congenital, 214700
SLC26A4	100.0%	100.0%	100.0%	99.1%	Deafness, autosomal recessive 4, with enlarged vestibular aqueduct, 600791 Pendred syndrome, 274600
SLC27A4	100.0%	100.0%	100.0%	99.8%	Ichthyosis prematurity syndrome, 608649
SLC29A3	100.0%	100.0%	100.0%	99.8%	Histiocytosis-lymphadenopathy plus syndrome, 602782

SLC2A1	100.0%	100.0%	100.0%	99.8%	Dystonia 9, 601042 GLUT1 deficiency syndrome 1, infantile onset, severe, 606777 Stomatin-deficient cryohydrocytosis with neurologic defects, 608885 GLUT1 deficiency syndrome 2, childhood onset, 612126
SLC2A10	100.0%	100.0%	100.0%	99.8%	Arterial tortuosity syndrome, 208050
SLC2A2	100.0%	100.0%	100.0%	99.7%	Fanconi-Bickel syndrome, 227810
SLC2A9	100.0%	100.0%	100.0%	99.5%	Hypouricemia, renal, 2, 612076
SLC30A10	100.0%	100.0%	100.0%	99.8%	Hypermanganesemia with dystonia 1, 613280
SLC30A9	100.0%	100.0%	100.0%	99.5%	Birk-Landau-Perez syndrome, 617595
SLC33A1	100.0%	100.0%	100.0%	99.4%	Spastic paraplegia 42, autosomal dominant, 612539 Congenital cataracts, hearing loss, and neurodegeneration, 614482
SLC34A1	100.0%	100.0%	100.0%	99.7%	?Fanconi renotubular syndrome 2, 613388 Hypercalcemia, infantile, 2, 616963 Nephrolithiasis/osteoporosis, hypophosphatemic, 1, 612286
SLC34A2	100.0%	100.0%	100.0%	99.3%	Pulmonary alveolar microlithiasis, 265100
SLC34A3	100.0%	100.0%	100.0%	99.1%	Hypophosphatemic rickets with hypercalciuria, 241530
SLC35A1	100.0%	100.0%	100.0%	99.8%	Congenital disorder of glycosylation, type IIf, 603585
SLC35A3	97.7%	93.3%	100.0%	97.5%	Arthrogryposis, impaired intellectual development, and seizures, 615553
SLC35C1	100.0%	100.0%	100.0%	100.0%	Congenital disorder of glycosylation, type IIc, 266265
SLC35D1	100.0%	100.0%	100.0%	99.5%	Schneckenbecken dysplasia, 269250
SLC37A4	100.0%	100.0%	100.0%	99.6%	Glycogen storage disease Ib, 232220 Congenital disorder of glycosylation, type IIw, 619525 Glycogen storage disease Ic, 232240
SLC38A8	100.0%	100.0%	100.0%	99.6%	Foveal hypoplasia 2, w/wo optic nerve misrouting and/or anterior segment dysgenesis, 609218
SLC39A13	100.0%	100.0%	100.0%	100.0%	Ehlers-Danlos syndrome, spondylodysplastic type, 3, 612350
SLC39A14	93.6%	93.6%	100.0%	99.8%	?Hyperostosis cranalis interna, 144755 Hypermanganesemia with dystonia 2, 617013
SLC39A4	100.0%	100.0%	100.0%	99.9%	Acrodermatitis enteropathica, 201100
SLC39A8	100.0%	100.0%	100.0%	99.2%	Congenital disorder of glycosylation, type IIn, 616721
SLC3A1	96.2%	96.2%	100.0%	99.3%	Cystinuria, 220100
SLC44A1	100.0%	100.0%	100.0%	99.0%	Neurodegeneration, childhood-onset, with ataxia, tremor, optic atrophy, and cognitive decline, 618868
SLC45A1	100.0%	100.0%	100.0%	98.5%	Intellectual developmental disorder with neuropsychiatric features, 617532
SLC45A2	100.0%	100.0%	100.0%	99.9%	Albinism, oculocutaneous, type IV, 606574
SLC46A1	100.0%	100.0%	100.0%	99.8%	Folate malabsorption, hereditary, 229050

SLC4A1	100.0%	100.0%	100.0%	99.6%	Distal renal tubular acidosis 1, 179800 Spherocytosis, type 4, 612653 Distal renal tubular acidosis 4 with hemolytic anemia, 611590 Cryohydrocytosis, 185020 Ovalocytosis, SA type, 166900
SLC4A11	100.0%	100.0%	100.0%	99.6%	Corneal endothelial dystrophy, autosomal recessive, 217700 Corneal dystrophy, Fuchs endothelial, 4, 613268 Corneal endothelial dystrophy and perceptive deafness, 217400
SLC4A4	100.0%	99.7%	100.0%	99.3%	Renal tubular acidosis, proximal, with ocular abnormalities, 604278
SLC52A2	100.0%	100.0%	100.0%	100.0%	Brown-Vialetto-Van Laere syndrome 2, 614707
SLC52A3	100.0%	100.0%	100.0%	99.9%	?Fazio-Londe disease, 211500 Brown-Vialetto-Van Laere syndrome 1, 211530
SLC5A1	100.0%	100.0%	100.0%	99.6%	Glucose/galactose malabsorption, 606824
SLC5A2	100.0%	100.0%	100.0%	99.9%	Renal glucosuria, 233100
SLC5A5	100.0%	100.0%	100.0%	99.2%	Thyroid dyshormonogenesis 1, 274400
SLC5A7	100.0%	100.0%	100.0%	99.8%	Neuronopathy, distal hereditary motor, type VIIA, 158580 Myasthenic syndrome, congenital, 20, presynaptic, 617143
SLC6A17	100.0%	100.0%	100.0%	98.6%	Intellectual developmental disorder, autosomal recessive 48, 616269
SLC6A19	100.0%	100.0%	100.0%	99.8%	Hartnup disorder, 234500
SLC6A3	100.0%	100.0%	100.0%	99.9%	Parkinsonism-dystonia, infantile, 1, 613135
SLC6A5	100.0%	100.0%	100.0%	99.5%	Hyperekplexia 3, 614618
SLC6A9	100.0%	100.0%	100.0%	99.9%	Glycine encephalopathy with normal serum glycine, 617301
SLC7A14	100.0%	100.0%	100.0%	99.5%	Retinitis pigmentosa 68, 615725
SLC7A7	100.0%	100.0%	100.0%	99.1%	Lysinuric protein intolerance, 222700
SLC7A9	100.0%	100.0%	100.0%	99.6%	Cystinuria, 220100
SLC9A1	100.0%	100.0%	100.0%	99.8%	Lichtenstein-Knorr syndrome, 616291
SLC9A3	100.0%	99.6%	100.0%	98.7%	Diarrhea 8, secretory sodium, congenital, 616868
SLCO2A1	100.0%	100.0%	100.0%	99.6%	Hypertrophic osteoarthropathy, primary, autosomal dominant, 167100 Hypertrophic osteoarthropathy, primary, autosomal recessive 2, 614441
SLITRK6	100.0%	100.0%	100.0%	99.3%	Deafness and myopia, 221200
SLURP1	100.0%	100.0%	100.0%	100.0%	Meleda disease, 248300
SLX4	100.0%	100.0%	100.0%	99.6%	Fanconi anemia, complementation group P, 613951
SMARCAL1	100.0%	100.0%	100.0%	99.4%	Schimke immunoosseous dysplasia, 242900
SMARCD2	100.0%	100.0%	100.0%	99.6%	Specific granule deficiency 2, 617475

SMG9	100.0%	100.0%	100.0%	99.8%	Heart and brain malformation syndrome, 616920 Neurodevelopmental disorder with intention tremor, pyramidal signs, dyspraxia, and ocular anomalies, 619995
SMN1	93.9%	93.9%	99.9%	96.4%	Spinal muscular atrophy-2, 253550 Spinal muscular atrophy-4, 271150 Spinal muscular atrophy-3, 253400 Spinal muscular atrophy-1, 253300
SMO	100.0%	100.0%	100.0%	99.8%	Pallister-Hall-like syndrome, 241800 Basal cell carcinoma, somatic, 605462 Curry-Jones syndrome, somatic mosaic, 601707
SMOC1	100.0%	100.0%	100.0%	99.5%	Microphthalmia with limb anomalies, 206920
SMOC2	100.0%	100.0%	100.0%	99.7%	Dentin dysplasia, type I, with microdontia and misshapen teeth, 125400
SMPD1	100.0%	100.0%	100.0%	99.4%	Niemann-Pick disease, type B, 607616 Niemann-Pick disease, type A, 257200
SMPD4	100.0%	100.0%	100.0%	99.7%	Neurodevelopmental disorder with microcephaly, arthrogryposis, and structural brain anomalies, 618622
SNAI2	100.0%	100.0%	100.0%	99.7%	No OMIM disease ID
SNAP29	100.0%	100.0%	100.0%	99.5%	Cerebral dysgenesis, neuropathy, ichthyosis, and palmoplantar keratoderma syndrome, 609528
SNIP1	100.0%	100.0%	100.0%	98.5%	Neurodevelopmental disorder with hypotonia, craniofacial abnormalities, and seizures, 614501
SNORD118					Leukoencephalopathy, brain calcifications, and cysts, 614561
SNX10	100.0%	100.0%	100.0%	99.6%	Osteopetrosis, autosomal recessive 8, 615085
SNX14	100.0%	100.0%	100.0%	99.0%	Spinocerebellar ataxia, autosomal recessive 20, 616354
SOBP	100.0%	99.5%	100.0%	98.7%	?Impaired intellectual development, anterior maxillary protrusion, and strabismus, 613671
SOD1	100.0%	100.0%	100.0%	99.8%	Spastic tetraplegia and axial hypotonia, progressive, 618598 Amyotrophic lateral sclerosis 1, 105400
SORD	92.6%	89.6%	97.9%	90.5%	Sorbitol dehydrogenase deficiency with peripheral neuropathy, 618912
SOST	100.0%	100.0%	100.0%	99.9%	Sclerosteosis 1, 269500 Craniodiaphyseal dysplasia, autosomal dominant, 122860
SOX18	99.8%	98.8%	100.0%	99.1%	Hypotrichosis-lymphedema-telangiectasia syndrome, 607823 Hypotrichosis-lymphedema-telangiectasia-renal defect syndrome, 137940
SP110	100.0%	99.7%	100.0%	99.2%	Hepatic venoocclusive disease with immunodeficiency, 235550
SP7	100.0%	100.0%	100.0%	99.1%	Osteogenesis imperfecta, type XII, 613849
SPAG1	100.0%	100.0%	100.0%	98.8%	Ciliary dyskinesia, primary, 28, 615505
SPARC	100.0%	100.0%	100.0%	99.5%	Osteogenesis imperfecta, type XVII, 616507
SPART	100.0%	100.0%	100.0%	99.3%	Troyer syndrome, 275900
SPATA5	100.0%	100.0%	100.0%	99.6%	Neurodevelopmental disorder with hearing loss, seizures, and brain abnormalities, 616577

SPATA5L1	100.0%	100.0%	100.0%	99.4%	Deafness, autosomal recessive 119, 619615 Neurodevelopmental disorder with hearing loss and spasticity, 619616
SPATA7	100.0%	100.0%	100.0%	98.7%	Leber congenital amaurosis 3, 604232 Retinitis pigmentosa 94, variable age at onset, autosomal recessive, 604232
SPEG	100.0%	100.0%	100.0%	99.8%	Centronuclear myopathy 5, 615959
SPG11	100.0%	100.0%	100.0%	99.3%	Amyotrophic lateral sclerosis 5, juvenile, 602099 Charcot-Marie-Tooth disease, axonal, type 2X, 616668 Spastic paraplegia 11, autosomal recessive, 604360
SPG21	100.0%	100.0%	100.0%	99.1%	Mast syndrome, 248900
SPG7	100.0%	100.0%	100.0%	99.6%	Spastic paraplegia 7, autosomal recessive, 607259
SPINK5	100.0%	100.0%	100.0%	99.4%	Netherton syndrome, 256500
SPINT2	100.0%	100.0%	100.0%	99.7%	Diarrhea 3, secretory sodium, congenital, syndromic, 270420
SPR	100.0%	100.0%	100.0%	99.7%	Dystonia, dopa-responsive, due to sepiapterin reductase deficiency, 612716
SPRED2	100.0%	100.0%	100.0%	99.8%	Noonan syndrome 14, 619745
SPRTN	100.0%	100.0%	100.0%	99.2%	Ruijs-Aalfs syndrome, 616200
SPTA1	100.0%	99.8%	100.0%	99.5%	Spherocytosis, type 3, 270970 Elliptocytosis-2, 130600 Pyropoikilocytosis, 266140
SPTB	100.0%	100.0%	100.0%	99.7%	Anemia, neonatal hemolytic, fatal or near-fatal, 617948 Elliptocytosis-3, 617948 Spherocytosis, type 2, 616649
SPTBN2	100.0%	99.8%	100.0%	99.8%	Spinocerebellar ataxia 5, 600224 Spinocerebellar ataxia, autosomal recessive 14, 615386
SPTBN4	100.0%	100.0%	100.0%	99.5%	Neurodevelopmental disorder with hypotonia, neuropathy, and deafness, 617519
SQSTM1	100.0%	100.0%	100.0%	99.7%	Neurodegeneration with ataxia, dystonia, and gaze palsy, childhood-onset, 617145 Frontotemporal dementia and/or amyotrophic lateral sclerosis 3, 616437 Myopathy, distal, with rimmed vacuoles, 617158 Paget disease of bone 3, 167250
SRD5A2	100.0%	100.0%	100.0%	99.6%	Pseudovaginal perineoscrotal hypospadias, 264600
SRD5A3	100.0%	100.0%	100.0%	99.7%	Kahrizi syndrome, 612713 Congenital disorder of glycosylation, type Iq, 612379
ST14	100.0%	100.0%	100.0%	99.9%	Ichthyosis, congenital, autosomal recessive 11, 602400
ST3GAL3	97.4%	95.3%	100.0%	99.6%	Developmental and epileptic encephalopathy 15, 615006 Intellectual developmental disorder, autosomal recessive 12, 611090
ST3GAL5	98.3%	98.3%	100.0%	99.3%	Salt and pepper developmental regression syndrome, 609056

STAC3	100.0%	100.0%	100.0%	99.2%	Congenital myopathy 13, 255995
STAMBP	100.0%	100.0%	100.0%	99.4%	Microcephaly-capillary malformation syndrome, 614261
STAR	100.0%	100.0%	100.0%	99.9%	Lipoid adrenal hyperplasia, 201710
STAT1	96.1%	95.9%	100.0%	99.6%	Immunodeficiency 31C, chronic mucocutaneous candidiasis, autosomal dominant, 614162 Immunodeficiency 31A, mycobacteriosis, autosomal dominant, 614892 Immunodeficiency 31B, mycobacterial and viral infections, autosomal recessive, 613796
STAT2	100.0%	100.0%	100.0%	99.7%	Pseudo-TORCH syndrome 3, 618886 Immunodeficiency 44, 616636
STAT5B	100.0%	100.0%	100.0%	99.6%	Growth hormone insensitivity with immune dysregulation 1, autosomal recessive, 245590 Growth hormone insensitivity with immune dysregulation 2, autosomal dominant, 618985 Leukemia, acute promyelocytic, somatic, 102578
STIL	100.0%	100.0%	100.0%	99.3%	Microcephaly 7, primary, autosomal recessive, 612703
STIM1	100.0%	100.0%	100.0%	99.7%	Myopathy, tubular aggregate, 1, 160565 Stormorken syndrome, 185070 Immunodeficiency 10, 612783
STK4	100.0%	100.0%	100.0%	99.4%	T-cell immunodeficiency, recurrent infections, autoimmunity, and cardiac malformations, 614868
STN1	100.0%	100.0%	100.0%	99.5%	Cerebroretinal microangiopathy with calcifications and cysts 2, 617341
STRA6	100.0%	100.0%	100.0%	99.7%	Microphthalmia, syndromic 9, 601186 Microphthalmia, isolated, with coloboma 8, 601186
STRADA	100.0%	100.0%	100.0%	99.4%	Polyhydramnios, megalencephaly, and symptomatic epilepsy, 611087
STRC	100.0%	100.0%	100.0%	99.2%	Deafness, autosomal recessive 16, 603720
STT3A	100.0%	100.0%	100.0%	99.5%	Congenital disorder of glycosylation, type Iw, autosomal dominant, 619714 Congenital disorder of glycosylation, type Iw, autosomal recessive, 615596
STT3B	100.0%	100.0%	100.0%	98.6%	Congenital disorder of glycosylation, type Ix, 615597
STUB1	100.0%	100.0%	100.0%	99.4%	Spinocerebellar ataxia 48, 618093 Spinocerebellar ataxia, autosomal recessive 16, 615768
STX11	100.0%	100.0%	100.0%	100.0%	Hemophagocytic lymphohistiocytosis, familial, 4, 603552
STXBP2	100.0%	99.9%	100.0%	99.9%	Hemophagocytic lymphohistiocytosis, familial, 5, w/wo microvillus inclusion disease, 613101
SUCLA2	100.0%	99.6%	100.0%	99.4%	Mitochondrial DNA depletion syndrome 5 (encephalomyopathic w/wo methylmalonic aciduria), 612073
SUCLG1	100.0%	100.0%	100.0%	98.5%	Mitochondrial DNA depletion syndrome 9 (encephalomyopathic type with methylmalonic aciduria), 245400
SUFU	100.0%	100.0%	100.0%	99.8%	Joubert syndrome 32, 617757 Basal cell nevus syndrome 2, 620343
SULT2B1	100.0%	100.0%	100.0%	99.7%	Ichthyosis, congenital, autosomal recessive 14, 617571
SUMF1	100.0%	100.0%	100.0%	99.8%	Multiple sulfatase deficiency, 272200
SUOX	100.0%	100.0%	100.0%	99.5%	Sulfite oxidase deficiency, 272300

SURF1	100.0%	100.0%	100.0%	99.4%	Charcot-Marie-Tooth disease, type 4K, 616684 Mitochondrial complex IV deficiency, nuclear type 1, 220110
SVBP	100.0%	100.0%	100.0%	99.1%	Neurodevelopmental disorder with ataxia, hypotonia, and microcephaly, 618569
SYNE1	99.8%	99.5%	100.0%	99.4%	Arthrogryposis multiplex congenita 3, myogenic type, 618484 Emery-Dreifuss muscular dystrophy 4, autosomal dominant, 612998 Spinocerebellar ataxia, autosomal recessive 8, 610743
SYNE4	100.0%	100.0%	100.0%	99.8%	Deafness, autosomal recessive 76, 615540
SYNJ1	100.0%	100.0%	100.0%	99.3%	Parkinson disease 20, early-onset, 615530 Developmental and epileptic encephalopathy 53, 617389
SYT14	100.0%	100.0%	100.0%	99.4%	?Spinocerebellar ataxia, autosomal recessive 11, 614229
SZT2	100.0%	100.0%	100.0%	99.7%	Developmental and epileptic encephalopathy 18, 615476
TAC3	100.0%	100.0%	100.0%	99.9%	Hypogonadotropic hypogonadism 10 w/wo anosmia, 614839
TACO1	100.0%	100.0%	100.0%	99.5%	Mitochondrial complex IV deficiency, nuclear type 8, 619052
TACR3	100.0%	99.8%	100.0%	99.3%	Hypogonadotropic hypogonadism 11 w/wo anosmia, 614840
TACSTD2	100.0%	100.0%	100.0%	99.8%	Corneal dystrophy, gelatinous drop-like, 204870
TAF13	100.0%	100.0%	100.0%	99.1%	Intellectual developmental disorder, autosomal recessive 60, 617432
TAF1C	100.0%	100.0%	100.0%	99.9%	No OMIM disease ID
TAF2	100.0%	100.0%	100.0%	99.5%	Intellectual developmental disorder, autosomal recessive 40, 615599
TAF6	100.0%	100.0%	100.0%	99.7%	Alazami-Yuan syndrome, 617126
TALDO1	100.0%	100.0%	100.0%	99.4%	Transaldolase deficiency, 606003
TANGO2	100.0%	100.0%	100.0%	99.4%	Metabolic encephalomyopathic crises, recurrent, with rhabdomyolysis, cardiac arrhythmias, and neurodegeneration, 616878
TAP1	100.0%	100.0%	100.0%	99.4%	Bare lymphocyte syndrome, type I, 604571
TAP2	100.0%	100.0%	100.0%	98.7%	Bare lymphocyte syndrome, type I, due to TAP2 deficiency, 604571
TAPBP	95.9%	95.9%	100.0%	99.3%	Bare lymphocyte syndrome, type I, 604571
TAPT1	100.0%	100.0%	100.0%	98.9%	Osteochondrodysplasia, complex lethal, Symoens-Barnes-Gistelinck type, 616897
TARS2	100.0%	100.0%	100.0%	99.5%	Combined oxidative phosphorylation deficiency 21, 615918
TAT	100.0%	100.0%	100.0%	99.8%	Tyrosinemia, type II, 276600
TBC1D20	100.0%	100.0%	100.0%	99.2%	Warburg micro syndrome 4, 615663
TBC1D23	100.0%	100.0%	100.0%	99.3%	Pontocerebellar hypoplasia, type 11, 617695

TBC1D24	100.0%	100.0%	100.0%	100.0%	Deafness, autosomal recessive 86, 614617 Epilepsy, rolandic, with paroxysmal exercise-induce dystonia and writer's cramp, 608105 Myoclonic epilepsy, infantile, familial, 605021 Deafness, autosomal dominant 65, 616044 Developmental and epileptic encephalopathy 16, 615338 DOORS syndrome, 220500
TBC1D7	100.0%	100.0%	100.0%	99.3%	Macrocephaly/megalencephaly syndrome, autosomal recessive, 248000
TBCD	100.0%	100.0%	100.0%	99.8%	Encephalopathy, progressive, early-onset, with brain atrophy and thin corpus callosum, 617193
TBCE	100.0%	100.0%	100.0%	99.5%	Kenny-Caffey syndrome, type 1, 244460 Hypoparathyroidism-retardation-dysmorphism syndrome, 241410 Encephalopathy, progressive, with amyotrophy and optic atrophy, 617207
TBCK	100.0%	100.0%	100.0%	99.5%	Hypotonia, infantile, with psychomotor retardation and characteristic facies 3, 616900
TBX15	100.0%	99.4%	100.0%	99.3%	Cousin syndrome, 260660
TBX19	100.0%	100.0%	100.0%	99.7%	Adrenocorticotropic hormone deficiency, 201400
TBX6	100.0%	100.0%	100.0%	99.8%	Spondylocostal dysostosis 5, 122600
TBXAS1	100.0%	100.0%	100.0%	99.4%	Ghosal hematodiaphyseal syndrome, 231095
TBXT	100.0%	100.0%	100.0%	99.6%	Sacral agenesis with vertebral anomalies, 615709
TCAP	100.0%	100.0%	100.0%	100.0%	Cardiomyopathy, hypertrophic, 25, 607487 Muscular dystrophy, limb-girdle, autosomal recessive 7, 601954
TCIRG1	100.0%	100.0%	100.0%	100.0%	Osteopetrosis, autosomal recessive 1, 259700
TCN2	100.0%	100.0%	100.0%	99.7%	Transcobalamin II deficiency, 275350
TCTEX1D2	100.0%	100.0%	100.0%	98.2%	Short-rib thoracic dysplasia 17 w/wo polydactyly, 617405
TCTN1	95.4%	94.0%	99.9%	99.0%	Joubert syndrome 13, 614173
TCTN2	100.0%	100.0%	100.0%	99.6%	Joubert syndrome 24, 616654 ?Meckel syndrome 8, 613885
TCTN3	100.0%	100.0%	100.0%	99.4%	Joubert syndrome 18, 614815 Orofaciodigital syndrome IV, 258860
TDP1	100.0%	100.0%	100.0%	99.6%	?Spinocerebellar ataxia, autosomal recessive, with axonal neuropathy 1, 607250
TDP2	100.0%	100.0%	100.0%	99.6%	Spinocerebellar ataxia, autosomal recessive 23, 616949
TDRD7	100.0%	100.0%	100.0%	99.6%	Cataract 36, 613887
TECPR2	100.0%	100.0%	100.0%	99.6%	Neuropathy, hereditary sensory and autonomic, type IX, with developmental delay, 615031
TECR	100.0%	100.0%	100.0%	99.9%	Intellectual developmental disorder, autosomal recessive 14, 614020
TECRL	100.0%	100.0%	100.0%	99.4%	Ventricular tachycardia, catecholaminergic polymorphic, 3, 614021
TECTA	100.0%	100.0%	100.0%	99.7%	Deafness, autosomal dominant 8/12, 601543 Deafness, autosomal recessive 21, 603629

TELO2	100.0%	100.0%	100.0%	99.9%	You-Hoover-Fong syndrome, 616954
TENM3	100.0%	100.0%	100.0%	99.8%	Microphthalmia, syndromic 15, 615145 ?Microphthalmia, isolated, with coloboma 9, 615145
TENT5A	100.0%	100.0%	100.0%	98.9%	Osteogenesis imperfecta, type XVIII, 617952
TF	100.0%	100.0%	100.0%	99.7%	Atransferrinemia, 209300
TFAM	100.0%	100.0%	100.0%	99.4%	?Mitochondrial DNA depletion syndrome 15 (hepatocerebral type), 617156
TFG	100.0%	100.0%	100.0%	99.2%	?Spastic paraplegia 57, autosomal recessive, 615658 Hereditary motor and sensory neuropathy, Okinawa type, 604484
TFR2	100.0%	100.0%	100.0%	99.4%	Hemochromatosis, type 3, 604250
TFRC	100.0%	100.0%	99.9%	98.9%	Immunodeficiency 46, 616740
TG	100.0%	100.0%	100.0%	99.6%	Thyroid dyshormonogenesis 3, 274700
TGDS	100.0%	100.0%	100.0%	99.0%	Catel-Manzke syndrome, 616145
TGFB1	100.0%	100.0%	100.0%	99.9%	Inflammatory bowel disease, immunodeficiency, and encephalopathy, 618213 Camurati-Engelmann disease, 131300
TGM1	100.0%	100.0%	100.0%	99.6%	Ichthyosis, congenital, autosomal recessive 1, 242300
TGM5	100.0%	100.0%	100.0%	99.4%	Peeling skin syndrome 2, 609796
TH	100.0%	100.0%	100.0%	99.7%	Segawa syndrome, recessive, 605407
THOC6	100.0%	100.0%	100.0%	99.9%	Beaulieu-Boycott-Innes syndrome, 613680
THRB	100.0%	100.0%	100.0%	99.4%	Thyroid hormone resistance, autosomal recessive, 274300 Thyroid hormone resistance, 188570 Thyroid hormone resistance, selective pituitary, 145650
THUMPD1	100.0%	99.9%	100.0%	98.4%	Neurodevelopmental disorder with speech delay and variable ocular anomalies, 619989
TIMM50	100.0%	100.0%	100.0%	99.8%	3-methylglutaconic aciduria, type IX, 617698
TIMMDC1	100.0%	100.0%	100.0%	99.0%	Mitochondrial complex I deficiency, nuclear type 31, 618251
TJP2	100.0%	100.0%	100.0%	99.1%	Hypercholanemia, familial 1, 607748 Cholestasis, progressive familial intrahepatic 4, 615878
TK2	100.0%	100.0%	100.0%	99.5%	Mitochondrial DNA depletion syndrome 2 (myopathic type), 609560 ?Progressive external ophthalmoplegia with mitochondrial DNA deletions, autosomal recessive 3, 617069
TKT	98.1%	98.1%	100.0%	99.8%	Short stature, developmental delay, and congenital heart defects, 617044
TLE6	100.0%	100.0%	100.0%	99.8%	Oocyte/zygote/embryo maturation arrest 15, 616814
TMC1	100.0%	100.0%	100.0%	98.6%	Deafness, autosomal dominant 36, 606705 Deafness, autosomal recessive 7, 600974
TMC6	100.0%	100.0%	100.0%	99.8%	Epidermodysplasia verruciformis, 226400
TMC8	100.0%	100.0%	100.0%	99.8%	Epidermodysplasia verruciformis 2, 618231

TMCO1	88.0%	87.7%	100.0%	98.8%	Craniofacial dysmorphism, skeletal anomalies, and impaired intellectual development 1, 213980
TMEM107	100.0%	100.0%	100.0%	99.6%	Orofaciodigital syndrome XVI, 617563 Meckel syndrome 13, 617562 ?Joubert syndrome 29, 617562
TMEM126A	100.0%	100.0%	100.0%	99.3%	Optic atrophy 7, 612989
TMEM126B	100.0%	100.0%	100.0%	99.0%	Mitochondrial complex I deficiency, nuclear type 29, 618250
TMEM132E	100.0%	100.0%	100.0%	99.7%	Deafness, autosomal recessive 99, 618481
TMEM138	100.0%	100.0%	100.0%	99.9%	Joubert syndrome 16, 614465
TMEM165	100.0%	100.0%	100.0%	99.5%	Congenital disorder of glycosylation, type IIk, 614727
TMEM199	100.0%	100.0%	100.0%	99.6%	Congenital disorder of glycosylation, type IIp, 616829
TMEM216	100.0%	100.0%	100.0%	99.5%	Joubert syndrome 2, 608091 Meckel syndrome 2, 603194
TMEM231	100.0%	100.0%	100.0%	99.7%	Joubert syndrome 20, 614970 Meckel syndrome 11, 615397
TMEM237	100.0%	100.0%	100.0%	99.1%	Joubert syndrome 14, 614424
TMEM260	100.0%	100.0%	100.0%	99.1%	Structural heart defects and renal anomalies syndrome, 617478
TMEM38B	100.0%	100.0%	100.0%	99.5%	Osteogenesis imperfecta, type XIV, 615066
TMEM67	99.5%	97.5%	100.0%	97.9%	Nephronophthisis 11, 613550 Joubert syndrome 6, 610688 Meckel syndrome 3, 607361 ?RHYNS syndrome, 602152 COACH syndrome 1, 216360
TMEM70	100.0%	100.0%	100.0%	98.9%	Mitochondrial complex V (ATP synthase) deficiency, nuclear type 2, 614052
TMEM94	100.0%	100.0%	100.0%	99.8%	Intellectual developmental disorder with cardiac defects and dysmorphic facies, 618316
TMIE	100.0%	100.0%	100.0%	99.9%	Deafness, autosomal recessive 6, 600971
TMPRSS15	100.0%	100.0%	100.0%	98.9%	Enterokinase deficiency, 226200
TMPRSS3	100.0%	100.0%	100.0%	99.5%	Deafness, autosomal recessive 8/10, 601072
TMPRSS6	100.0%	100.0%	100.0%	99.4%	Iron-refractory iron deficiency anemia, 206200
TMTC3	100.0%	99.5%	100.0%	99.0%	Lissencephaly 8, 617255
TNFRSF11A	100.0%	99.6%	100.0%	99.4%	Osteopetrosis, autosomal recessive 7, 612301 Osteolysis, familial expansile, 174810
TNFRSF11B	100.0%	100.0%	100.0%	99.7%	Paget disease of bone 5, juvenile-onset, 239000
TNFRSF13B	100.0%	100.0%	100.0%	99.9%	Immunodeficiency, common variable, 2, 240500 Immunoglobulin A deficiency 2, 609529
TNFRSF13C	100.0%	100.0%	100.0%	99.0%	Immunodeficiency, common variable, 4, 613494

TNFRSF4	100.0%	100.0%	100.0%	99.5%	?Immunodeficiency 16, 615593
TNFSF11	100.0%	100.0%	100.0%	99.6%	Osteopetrosis, autosomal recessive 2, 259710
TNIK	100.0%	100.0%	100.0%	99.5%	Intellectual developmental disorder, autosomal recessive 54, 617028
TNNI3	100.0%	100.0%	100.0%	99.1%	?Cardiomyopathy, dilated, 2A, 611880 Cardiomyopathy, hypertrophic, 7, 613690 Cardiomyopathy, familial restrictive, 1, 115210 Cardiomyopathy, dilated, 1FF, 613286
TNNT1	100.0%	100.0%	100.0%	98.3%	Nemaline myopathy 5C, autosomal dominant, 620389 Nemaline myopathy 5A, autosomal recessive, severe infantile, 605355 Nemaline myopathy 5B, autosomal recessive, childhood-onset, 620386
TNXB	100.0%	100.0%	100.0%	99.6%	Ehlers-Danlos syndrome, classic-like, 1, 606408 Vesicoureteral reflux 8, 615963
TOE1	100.0%	100.0%	100.0%	99.5%	Pontocerebellar hypoplasia, type 7, 614969
TONSL	100.0%	100.0%	100.0%	99.9%	Spondyloepimetaphyseal dysplasia, sponastrime type, 271510
TOP3A	100.0%	100.0%	100.0%	99.5%	?Progressive external ophthalmoplegia with mitochondrial DNA deletions, autosomal recessive 5, 618098 Microcephaly, growth restriction, and increased sister chromatid exchange 2, 618097
TOR1AIP1	100.0%	100.0%	100.0%	99.2%	?Muscular dystrophy, autosomal recessive, with rigid spine and distal joint contractures, 617072
TP53RK	100.0%	100.0%	100.0%	99.5%	Galloway-Mowat syndrome 4, 617730
TP73	100.0%	100.0%	100.0%	99.9%	Ciliary dyskinesia, primary, 47, and lissencephaly, 619466
TPI1	100.0%	100.0%	100.0%	99.7%	Hemolytic anemia due to triosephosphate isomerase deficiency, 615512
TPK1	100.0%	100.0%	100.0%	99.4%	Thiamine metabolism dysfunction syndrome 5 (episodic encephalopathy type), 614458
TPM3	100.0%	100.0%	100.0%	99.5%	Congenital myopathy 4A, autosomal dominant, 255310 Congenital myopathy 4B, autosomal recessive, 609284
TPO	100.0%	100.0%	100.0%	99.7%	Thyroid dyshormonogenesis 2A, 274500
TPP1	100.0%	100.0%	100.0%	99.8%	Ceroid lipofuscinosis, neuronal, 2, 204500 Spinocerebellar ataxia, autosomal recessive 7, 609270
TPRKB	82.0%	81.2%	100.0%	99.6%	Galloway-Mowat syndrome 5, 617731
TPRN	97.1%	95.4%	99.9%	94.1%	Deafness, autosomal recessive 79, 613307
TRAC	100.0%	100.0%	100.0%	99.6%	Immunodeficiency 7, TCR-alpha/beta deficient, 615387
TRAF3IP1	100.0%	100.0%	100.0%	98.9%	Senior-Loken syndrome 9, 616629
TRAIP	100.0%	100.0%	100.0%	99.7%	Seckel syndrome 9, 616777
TRAK1	100.0%	100.0%	100.0%	99.7%	Developmental and epileptic encephalopathy 68, 618201
TRAPPC11	100.0%	100.0%	100.0%	99.3%	Muscular dystrophy, limb-girdle, autosomal recessive 18, 615356
TRAPPC12	100.0%	100.0%	100.0%	99.9%	Encephalopathy, progressive, early-onset, with brain atrophy and spasticity, 617669

TRAPPC2L	100.0%	100.0%	100.0%	100.0%	Encephalopathy, progressive, early-onset, with episodic rhabdomyolysis, 618331
TRAPPC6B	100.0%	100.0%	100.0%	98.0%	Neurodevelopmental disorder with microcephaly, epilepsy, and brain atrophy, 617862
TRAPPC9	100.0%	100.0%	100.0%	99.4%	Intellectual developmental disorder, autosomal recessive 13, 613192
TRDN	99.9%	99.6%	100.0%	98.4%	Cardiac arrhythmia syndrome, w/wo skeletal muscle weakness, 615441
TREM2	100.0%	100.0%	100.0%	100.0%	Polycystic lipomembranous osteodysplasia with sclerosing leukoencephalopathy 2, 618193
TREX1	100.0%	100.0%	100.0%	100.0%	Vasculopathy, retinal, with cerebral leukoencephalopathy and systemic manifestations, 192315 Aicardi-Goutieres syndrome 1, dominant and recessive, 225750 Chilblain lupus, 610448
TRH	100.0%	100.0%	100.0%	99.0%	No OMIM disease ID
TRIM2	93.8%	93.8%	100.0%	99.3%	Charcot-Marie-Tooth disease, type 2R, 615490
TRIM32	100.0%	100.0%	100.0%	100.0%	?Bardet-Biedl syndrome 11, 615988 Muscular dystrophy, limb-girdle, autosomal recessive 8, 254110
TRIM37	98.3%	98.3%	100.0%	99.4%	Mulibrey nanism, 253250
TRIOBP	100.0%	100.0%	100.0%	99.1%	Deafness, autosomal recessive 28, 609823
TRIP11	100.0%	100.0%	100.0%	98.3%	Odontochondrodysplasia 1, 184260 Achondrogenesis, type IA, 200600
TRIP13	100.0%	100.0%	100.0%	99.6%	Oocyte/zygote/embryo maturation arrest 9, 619011 Mosaic variegated aneuploidy syndrome 3, 617598
TRIP4	100.0%	100.0%	100.0%	99.2%	?Muscular dystrophy, congenital, Davignon-Chauveau type, 617066 Spinal muscular atrophy with congenital bone fractures 1, 616866
TRIT1	100.0%	100.0%	100.0%	99.7%	Combined oxidative phosphorylation deficiency 35, 617873
TRMT1	100.0%	100.0%	100.0%	99.5%	Intellectual developmental disorder, autosomal recessive 68, 618302
TRMT10A	100.0%	100.0%	100.0%	99.2%	Microcephaly, short stature, and impaired glucose metabolism 1, 616033
TRMT10C	100.0%	100.0%	100.0%	98.7%	Combined oxidative phosphorylation deficiency 30, 616974
TRMT5	100.0%	100.0%	100.0%	99.6%	Peripheral neuropathy with variable spasticity, exercise intolerance, and developmental delay, 616539
TRMU	100.0%	100.0%	100.0%	99.4%	Liver failure, transient infantile, 613070
TRNT1	100.0%	100.0%	100.0%	99.2%	Sideroblastic anemia with B-cell immunodeficiency, periodic fevers, and developmental delay, 616084 Retinitis pigmentosa and erythrocytic microcytosis, 616959
TRPM1	100.0%	100.0%	99.8%	97.8%	Night blindness, congenital stationary (complete), 1C, autosomal recessive, 613216
TRPM6	100.0%	100.0%	100.0%	99.4%	Hypomagnesemia 1, intestinal, 602014
TSEN15	100.0%	100.0%	100.0%	99.7%	Pontocerebellar hypoplasia, type 2F, 617026
TSEN2	100.0%	100.0%	100.0%	99.1%	Pontocerebellar hypoplasia type 2B, 612389
TSEN34	100.0%	100.0%	100.0%	99.6%	?Pontocerebellar hypoplasia type 2C, 612390

TSEN54	100.0%	100.0%	100.0%	99.8%	Pontocerebellar hypoplasia type 2A, 277470 Pontocerebellar hypoplasia type 4, 225753 ?Pontocerebellar hypoplasia type 5, 610204
TSFM	94.3%	94.3%	100.0%	99.8%	Combined oxidative phosphorylation deficiency 3, 610505
TSHB	100.0%	100.0%	100.0%	100.0%	Hypothyroidism, congenital, nongoitrous 4, 275100
TSHR	100.0%	100.0%	100.0%	99.5%	Hyperthyroidism, familial gestational, 603373 Hyperthyroidism, nonautoimmune, 609152 Hypothyroidism, congenital, nongoitrous, 1, 275200 Thyroid adenoma, hyperfunctioning, somatic, Thyroid carcinoma with thyrotoxicosis, somatic,
TSPAN12	100.0%	100.0%	100.0%	99.7%	Exudative vitreoretinopathy 5, 613310
TSPEAR	100.0%	100.0%	100.0%	99.6%	Tooth agenesis, selective, 10, 620173 ?Deafness, autosomal recessive 98, 614861 Ectodermal dysplasia 14, hair/tooth type w/wo hypohidrosis, 618180
TSPYL1	100.0%	100.0%	100.0%	99.7%	Sudden infant death with dysgenesis of the testes syndrome, 608800
TTC19	100.0%	100.0%	100.0%	99.5%	Mitochondrial complex III deficiency, nuclear type 2, 615157
TTC21B	100.0%	99.8%	100.0%	99.0%	Short-rib thoracic dysplasia 4 w/wo polydactyly, 613819 Nephronophthisis 12, 613820
TTC25	100.0%	100.0%	100.0%	99.1%	Ciliary dyskinesia, primary, 35, 617092
TTC37	100.0%	100.0%	100.0%	99.3%	Trichohepatoenteric syndrome 1, 222470
TTC7A	100.0%	100.0%	100.0%	99.7%	Gastrointestinal defects and immunodeficiency syndrome, 243150
TTC8	100.0%	99.9%	100.0%	99.5%	Bardet-Biedl syndrome 8, 615985 ?Retinitis pigmentosa 51, 613464
TTI2	100.0%	100.0%	100.0%	99.1%	Intellectual developmental disorder, autosomal recessive 39, 615541
TTLL5	100.0%	100.0%	100.0%	99.3%	Cone-rod dystrophy 19, 615860
TTPA	100.0%	100.0%	100.0%	99.6%	Ataxia with isolated vitamin E deficiency, 277460
TUB	100.0%	100.0%	100.0%	99.8%	?Retinal dystrophy and obesity, 616188
TUBA8	100.0%	100.0%	100.0%	99.7%	Macrothrombocytopenia, isolated, 2, autosomal dominant, 619840
TUBGCP2	96.7%	96.7%	100.0%	99.8%	Pachygyria, microcephaly, developmental delay, and dysmorphic facies, w/wo seizures, 618737
TUBGCP4	100.0%	100.0%	100.0%	99.3%	Microcephaly and chorioretinopathy, autosomal recessive, 3, 616335
TUBGCP6	100.0%	100.0%	100.0%	99.9%	Microcephaly and chorioretinopathy, autosomal recessive, 1, 251270
TUFM	100.0%	100.0%	100.0%	99.7%	Combined oxidative phosphorylation deficiency 4, 610678
TULP1	100.0%	100.0%	100.0%	99.5%	Leber congenital amaurosis 15, 613843 Retinitis pigmentosa 14, 600132
TUSC3	100.0%	100.0%	100.0%	99.7%	Intellectual developmental disorder, autosomal recessive 7, 611093

TWIST2	100.0%	100.0%	100.0%	99.7%	Ablepharon-macrostomia syndrome, 200110 Barber-Say syndrome, 209885 Focal facial dermal dysplasia 3, Setleis type, 227260
TWNK	100.0%	100.0%	100.0%	99.7%	Mitochondrial DNA depletion syndrome 7 (hepatocerebral type), 271245 Progressive external ophthalmoplegia with mitochondrial DNA deletions, autosomal dominant 3, 609286 Perrault syndrome 5, 616138
TXNL4A	100.0%	100.0%	100.0%	99.8%	Burn-McKeown syndrome, 608572
TYK2	100.0%	100.0%	100.0%	99.8%	Immunodeficiency 35, 611521
TYMP	100.0%	100.0%	100.0%	100.0%	Mitochondrial DNA depletion syndrome 1 (MNGIE type), 603041
TYR	100.0%	99.9%	100.0%	99.7%	Albinism, oculocutaneous, type IB, 606952 Albinism, oculocutaneous, type IA, 203100
TYROBP	100.0%	100.0%	100.0%	99.1%	Polycystic lipomembranous osteodysplasia with sclerosing leukoencephalopathy 1, 221770
TYRP1	100.0%	100.0%	100.0%	99.7%	Albinism, oculocutaneous, type III, 203290
UBA5	100.0%	100.0%	100.0%	98.9%	?Spinocerebellar ataxia, autosomal recessive 24, 617133 Developmental and epileptic encephalopathy 44, 617132
UBE2T	100.0%	100.0%	100.0%	99.9%	Fanconi anemia, complementation group T, 616435
UBE3B	100.0%	100.0%	100.0%	99.4%	Kaufman oculocerebrofacial syndrome, 244450
UBR1	98.0%	98.0%	100.0%	99.0%	Johanson-Blizzard syndrome, 243800
UCHL1	100.0%	100.0%	100.0%	99.0%	Spastic paraplegia 79A, autosomal dominant, 620221 Spastic paraplegia 79B, autosomal recessive, 615491
UFC1	100.0%	100.0%	100.0%	99.3%	Neurodevelopmental disorder with spasticity and poor growth, 618076
UFM1	100.0%	100.0%	100.0%	99.8%	Leukodystrophy, hypomyelinating, 14, 617899
UGDH	100.0%	100.0%	100.0%	99.4%	Developmental and epileptic encephalopathy 84, 618792
UGT1A1	100.0%	100.0%	100.0%	99.8%	Crigler-Najjar syndrome, type I, 218800 Hyperbilirubinemia, familial transient neonatal, 237900 Crigler-Najjar syndrome, type II, 606785
UMPS	100.0%	100.0%	100.0%	99.8%	Orotic aciduria, 258900
UNC13D	100.0%	100.0%	100.0%	99.7%	Hemophagocytic lymphohistiocytosis, familial, 3, 608898
UNC80	100.0%	100.0%	100.0%	99.4%	Hypotonia, infantile, with psychomotor retardation and characteristic facies 2, 616801
UNG	100.0%	100.0%	100.0%	99.7%	Immunodeficiency with hyper IgM, type 5, 608106
UPB1	100.0%	100.0%	100.0%	99.4%	Beta-ureidopropionase deficiency, 613161
UQCC2	100.0%	100.0%	100.0%	99.6%	Mitochondrial complex III deficiency, nuclear type 7, 615824
UQCC3	100.0%	100.0%	100.0%	99.4%	?Mitochondrial complex III deficiency, nuclear type 9, 616111
UQCRB	100.0%	100.0%	100.0%	99.7%	Mitochondrial complex III deficiency, nuclear type 3, 615158

UQCRC2	100.0%	100.0%	100.0%	99.4%	Mitochondrial complex III deficiency, nuclear type 5, 615160
UQCRFS1	100.0%	100.0%	100.0%	100.0%	Mitochondrial complex III deficiency, nuclear type 10, 618775
UQCRQ	100.0%	100.0%	100.0%	98.8%	Mitochondrial complex III deficiency, nuclear type 4, 615159
UROC1	100.0%	100.0%	100.0%	99.9%	?Urocanase deficiency, 276880
UROD	100.0%	100.0%	100.0%	99.7%	Porphyria, hepatoerythropoietic, 176100 Porphyria cutanea tarda, 176100
UROS	100.0%	100.0%	100.0%	98.9%	Porphyria, congenital erythropoietic, 263700
USB1	100.0%	100.0%	100.0%	98.7%	Poikiloderma with neutropenia, 604173
USH1C	100.0%	100.0%	100.0%	98.1%	Usher syndrome, type 1C, 276904 Deafness, autosomal recessive 18A, 602092
USH1G	100.0%	100.0%	100.0%	99.9%	Usher syndrome, type 1G, 606943
USH2A	99.9%	99.6%	100.0%	99.7%	Usher syndrome, type 2A, 276901 Retinitis pigmentosa 39, 613809
USP18	100.0%	100.0%	100.0%	99.6%	Pseudo-TORCH syndrome 2, 617397
USP45	100.0%	100.0%	100.0%	99.2%	?Leber congenital amaurosis 19, 618513
UVSSA	100.0%	100.0%	100.0%	99.8%	UV-sensitive syndrome 3, 614640
VAC14	100.0%	100.0%	100.0%	99.8%	Striatonigral degeneration, childhood-onset, 617054
VAMP1	100.0%	100.0%	100.0%	99.5%	Myasthenic syndrome, congenital, 25, 618323 Spastic ataxia 1, autosomal dominant, 108600
VARS1	100.0%	100.0%	100.0%	99.6%	Neurodevelopmental disorder with microcephaly, seizures, and cortical atrophy, 617802
VARS2	100.0%	100.0%	100.0%	99.5%	Combined oxidative phosphorylation deficiency 20, 615917
VAX1	99.9%	99.1%	100.0%	96.2%	?Microphthalmia, syndromic 11, 614402
VDR	100.0%	100.0%	100.0%	99.1%	Rickets, vitamin D-resistant, type IIA, 277440
VHL	100.0%	100.0%	100.0%	99.8%	Erythrocytosis, familial, 2, 263400 von Hippel-Lindau syndrome, 193300 Renal cell carcinoma, somatic, 144700 Pheochromocytoma, 171300 Hemangioblastoma, cerebellar, somatic,
VIPAS39	100.0%	100.0%	100.0%	99.5%	Arthrogryposis, renal dysfunction, and cholestasis 2, 613404
VKORC1	97.8%	92.7%	100.0%	99.6%	Vitamin K-dependent clotting factors, combined deficiency of, 2, 607473 Warfarin resistance, 122700
VLDLR	100.0%	100.0%	100.0%	99.5%	Cerebellar hypoplasia, impaired intellectual development, and dysequilibrium syndrome 1, 224050
VPS11	100.0%	100.0%	100.0%	99.8%	?Dystonia 32, 619637 Leukodystrophy, hypomyelinating, 12, 616683
VPS13A	100.0%	100.0%	100.0%	98.9%	Choreoacanthocytosis, 200150

VPS13B	99.6%	99.2%	100.0%	99.4%	Cohen syndrome, 216550
VPS13C	100.0%	100.0%	100.0%	99.3%	Parkinson disease 23, autosomal recessive, early onset, 616840
VPS13D	100.0%	100.0%	100.0%	99.3%	Spinocerebellar ataxia, autosomal recessive 4, 607317
VPS33A	89.5%	89.5%	100.0%	98.8%	Mucopolysaccharidosis-plus syndrome, 617303
VPS33B	100.0%	100.0%	100.0%	99.5%	Keratoderma-ichthyosis-deafness syndrome, autosomal recessive, 620009 Cholestasis, progressive familial intrahepatic, 12, 620010 Arthrogryposis, renal dysfunction, and cholestasis 1, 208085
VPS37A	100.0%	100.0%	99.9%	96.6%	Spastic paraplegia 53, autosomal recessive, 614898
VPS45	95.1%	95.1%	100.0%	99.4%	Neutropenia, severe congenital, 5, autosomal recessive, 615285
VPS51	100.0%	100.0%	100.0%	99.5%	Pontocerebellar hypoplasia, type 13, 618606
VPS53	100.0%	100.0%	100.0%	99.7%	Pontocerebellar hypoplasia, type 2E, 615851
VRK1	100.0%	99.8%	100.0%	98.9%	Pontocerebellar hypoplasia type 1A, 607596
VSX2	100.0%	100.0%	100.0%	99.8%	Microphthalmia, isolated 2, 610093 Microphthalmia with coloboma 3, 610092
VWA1	100.0%	100.0%	100.0%	99.9%	Neuropathy, hereditary motor, with myopathic features, 619216
VWA3B	100.0%	100.0%	100.0%	99.1%	?Spinocerebellar ataxia, autosomal recessive 22, 616948
VWF	100.0%	100.0%	100.0%	99.7%	von Willebrand disease, type 1, 193400 von Willebrand disease, types 2A, 2B, 2M, and 2N, 613554 von Willebrand disease, type 3, 277480
WARS2	100.0%	100.0%	100.0%	99.1%	Parkinsonism-dystonia 3, childhood-onset, 619738 Neurodevelopmental disorder, mitochondrial, with abnormal movements and lactic acidosis, w/wo seizures, 617710
WASHC4	100.0%	100.0%	100.0%	99.2%	Intellectual developmental disorder, autosomal recessive 43, 615817
WASHC5	100.0%	100.0%	100.0%	99.2%	Ritscher-Schinzel syndrome 1, 220210 Spastic paraplegia 8, autosomal dominant, 603563
WBP2	100.0%	100.0%	100.0%	99.2%	Deafness, autosomal recessive 107, 617639
WDPCP	97.5%	97.3%	100.0%	99.6%	?Bardet-Biedl syndrome 15, 615992 Congenital heart defects, hamartomas of tongue, and polysyndactyly, 217085
WDR19	100.0%	100.0%	100.0%	98.9%	Nephronophthisis 13, 614377 Cranioectodermal dysplasia 4, 614378 Senior-Loken syndrome 8, 616307 Short-rib thoracic dysplasia 5 w/wo polydactyly, 614376 ?Spermatogenic failure 72, 619867
WDR34	100.0%	100.0%	100.0%	100.0%	Short-rib thoracic dysplasia 11 w/wo polydactyly, 615633

WDR35	100.0%	100.0%	100.0%	99.7%	Short-rib thoracic dysplasia 7 w/wo polydactyly, 614091 Cranioectodermal dysplasia 2, 613610
WDR4	100.0%	100.0%	100.0%	99.4%	Galloway-Mowat syndrome 6, 618347 Microcephaly, growth deficiency, seizures, and brain malformations, 618346
WDR45B	100.0%	100.0%	100.0%	98.6%	Neurodevelopmental disorder with spastic quadriplegia and brain abnormalities w/wo seizures, 617977
WDR60	100.0%	100.0%	100.0%	99.2%	Short-rib thoracic dysplasia 8 w/wo polydactyly, 615503
WDR62	100.0%	100.0%	100.0%	99.8%	Microcephaly 2, primary, autosomal recessive, w/wo cortical malformations, 604317
WDR72	96.8%	96.8%	100.0%	99.4%	Amelogenesis imperfecta, type IIA3, 613211
WDR73	100.0%	100.0%	100.0%	99.8%	Galloway-Mowat syndrome 1, 251300
WDR81	100.0%	100.0%	100.0%	99.9%	Cerebellar ataxia, impaired intellectual development, and dysquilibrium syndrome 2, 610185 Hydrocephalus, congenital, 3, with brain anomalies, 617967
WEE2	100.0%	100.0%	100.0%	99.5%	Oocyte/zygote/embryo maturation arrest 5, 617996
WFS1	100.0%	100.0%	100.0%	99.9%	Deafness, autosomal dominant 6/14/38, 600965 ?Cataract 41, 116400 Wolfram-like syndrome, autosomal dominant, 614296 Wolfram syndrome 1, 222300
WHRN	100.0%	100.0%	100.0%	99.8%	Deafness, autosomal recessive 31, 607084 Usher syndrome, type 2D, 611383
WIPF1	100.0%	100.0%	100.0%	99.2%	Wiskott-Aldrich syndrome 2, 614493
WIPI2	100.0%	100.0%	100.0%	99.3%	?Intellectual developmental disorder with short stature and variable skeletal anomalies, 618453
WNK1	100.0%	100.0%	100.0%	99.4%	Neuropathy, hereditary sensory and autonomic, type II, 201300 Pseudohypoaldosteronism, type IIC, 614492
WNT1	100.0%	100.0%	100.0%	99.8%	Osteogenesis imperfecta, type XV, 615220
WNT10A	100.0%	100.0%	100.0%	99.7%	Schopf-Schulz-Passarge syndrome, 224750 Tooth agenesis, selective, 4, 150400 Ectodermal dysplasia 16 (odontoonychodermal dysplasia), 257980
WNT10B	100.0%	100.0%	100.0%	99.9%	Tooth agenesis, selective, 8, 617073 Split-hand/foot malformation 6, 225300
WNT3	100.0%	100.0%	99.9%	98.2%	?Tetra-amelia syndrome 1, 273395
WNT4	100.0%	99.8%	100.0%	99.4%	?SERKAL syndrome, 611812 Mullerian aplasia and hyperandrogenism, 158330
WNT7A	100.0%	100.0%	100.0%	99.9%	Fuhrmann syndrome, 228930 Ulna and fibula, absence of, with severe limb deficiency, 276820
WRAP53	100.0%	100.0%	100.0%	99.6%	Dyskeratosis congenita, autosomal recessive 3, 613988
WRN	100.0%	100.0%	100.0%	98.9%	Werner syndrome, 277700

WWOX	100.0%	100.0%	100.0%	99.7%	Esophageal squamous cell carcinoma, somatic, 133239 Developmental and epileptic encephalopathy 28, 616211 Spinocerebellar ataxia, autosomal recessive 12, 614322
XDH	100.0%	100.0%	100.0%	99.5%	Xanthinuria, type I, 278300
XPA	100.0%	100.0%	100.0%	99.4%	Xeroderma pigmentosum, group A, 278700
XPC	100.0%	100.0%	100.0%	97.7%	Xeroderma pigmentosum, group C, 278720
XPNPEP3	100.0%	100.0%	100.0%	99.8%	Nephronophthisis-like nephropathy 1, 613159
XRCC1	100.0%	100.0%	100.0%	99.3%	?Spinocerebellar ataxia, autosomal recessive 26, 617633
XRCC2	100.0%	100.0%	100.0%	99.5%	Spermatogenic failure 50, 619145 ?Premature ovarian failure 17, 619146 ?Fanconi anemia, complementation group U, 617247
XRCC4	100.0%	100.0%	100.0%	98.4%	Short stature, microcephaly, and endocrine dysfunction, 616541
XYLT1	100.0%	99.8%	100.0%	98.6%	Desbuquois dysplasia 2, 615777
XYLT2	99.9%	99.2%	100.0%	99.7%	Spondyloocular syndrome, 605822
YARS2	100.0%	100.0%	100.0%	99.6%	Myopathy, lactic acidosis, and sideroblastic anemia 2, 613561
YIF1B	90.0%	90.0%	100.0%	99.4%	Kaya-Barakat-Masson syndrome, 619125
YME1L1	100.0%	100.0%	100.0%	99.0%	?Optic atrophy 11, 617302
YY1AP1	100.0%	100.0%	100.0%	99.5%	Grange syndrome, 602531
ZAP70	100.0%	100.0%	100.0%	99.9%	Immunodeficiency 48, 269840 Autoimmune disease, multisystem, infantile-onset, 2, 617006
ZBTB11	100.0%	100.0%	100.0%	99.7%	Intellectual developmental disorder, autosomal recessive 69, 618383
ZBTB16	100.0%	100.0%	100.0%	99.9%	Leukemia, acute promyelocytic, PL2F/RARA type,
ZBTB24	100.0%	100.0%	100.0%	99.7%	Immunodeficiency-centromeric instability-facial anomalies syndrome 2, 614069
ZBTB42	100.0%	100.0%	100.0%	100.0%	?Lethal congenital contracture syndrome 6, 616248
ZC3H14	100.0%	100.0%	100.0%	99.1%	Intellectual developmental disorder, autosomal recessive 56, 617125
ZFYVE26	100.0%	100.0%	100.0%	99.7%	Spastic paraplegia 15, autosomal recessive, 270700
ZMPSTE24	100.0%	100.0%	100.0%	99.6%	Mandibuloacral dysplasia with type B lipodystrophy, 608612 Restrictive dermopathy 1, 275210
ZMYND10	100.0%	100.0%	100.0%	99.9%	Ciliary dyskinesia, primary, 22, 615444
ZNF142	100.0%	100.0%	100.0%	99.9%	Neurodevelopmental disorder with impaired speech and hyperkinetic movements, 618425
ZNF335	100.0%	100.0%	100.0%	99.8%	Microcephaly 10, primary, autosomal recessive, 615095
ZNF341	100.0%	100.0%	100.0%	99.6%	Hyper-IgE recurrent infection syndrome 3, autosomal recessive, 618282
ZNF408	100.0%	100.0%	100.0%	99.7%	Retinitis pigmentosa 72, 616469 ?Exudative vitreoretinopathy 6, 616468

ZNF423	100.0%	100.0%	100.0%	99.9%	Nephronophthisis 14, 614844 Joubert syndrome 19, 614844
ZNF469	100.0%	100.0%	100.0%	99.7%	Brittle cornea syndrome 1, 229200
ZNF513	100.0%	100.0%	100.0%	99.3%	?Retinitis pigmentosa 58, 613617
ZNHIT3	78.2%	76.2%	100.0%	98.8%	PEHO syndrome, 260565
ZP1	100.0%	100.0%	100.0%	100.0%	Oocyte/zygote/embryo maturation arrest 1, 615774

Gene symbols used follow HGCN guidelines: Gray KA, Yates B, Seal RL, Wright MW, Bruford EA. Nucleic Acids Res. 2015 Jan 43(Database issue):D1079-85.
Gene symbols used follow HGCN guidelines: Gray KA, Yates B, Seal RL, Wright MW, Bruford EA. Nucleic Acids Res. 2015 Jan 43(Database issue):D1079-85.
TWIST X2 is the chemistry used for WES analysis.
Covered 10x describes the percentage of a gene's coding sequence that is covered at least 10x.
Covered 20x describes the percentage of a gene's coding sequence that is covered at least 20x.
Genes with coverage denoting NC are non-protein coding genes.
non-protein coding genes are covered, but as coverage statistics are based on protein coding regions, statistics could not be generated.
OMIM release used for OMIM disease identifiers and descriptions : March 17th, 2023
This list is accurate for panel version DG 3.7.0
Ad 1. "No OMIM Disease ID" signifies a gene without a current OMIM association Ad 2. OMIM phenotype descriptions between {} signify risk factors