

GeDiPNet Shared-Gene Disease Pairs

Similarity: Jaccard index on shared curated genes (disease_gdp). Significance: upper-tail hypergeometric test ($P(X \geq k)$), Benjamini-Hochberg FDR-corrected across all tested pairs. Corroborated Shared Genes: count of shared genes backed by ≥ 2 distinct disease_gdp.main_source values combined across both diseases (e.g. GWAS-backed for one, ClinVar-backed for the other still counts); Shared Gene Names lists each gene's own source count in parentheses. Overlap Coefficient: shared genes / MIN(each disease's own total gene count) -- complements the Jaccard-based Similarity Score by showing how much of the SMALLER disease's entire known gene-set is covered by this pair, which Jaccard (dividing by the union) can understate. Shared Cluster: cluster id if both diseases fall in the same label-propagation cluster (scripts/build_disease_clusters.php), blank otherwise. See scripts/build_related.php on gedipnet.bicnirrh.res.in. Data as of: 2026-10-12 03:00:13. Filters applied: disease name contains "Epilepsy" (420 matching pairs). · Rows: 420 · Generated: 2026-10-12 08:50:20

Disease A	Disease B	Share d Genes	Corroborate d Shared Genes	Shared Gene Names	Similari ty Score	Overlap Coefficie nt	P- valu e	FDR Q- value	Shared Cluster
Congenital hypotonia, epilepsy, developmental delay, and digital anomalies	Schizophrenia	1	1	ATN1 (4)	0.00039	1.00000	1.65 0e-1	1.657 e-1	
Autism	Autism-epilepsy syndrome	1	1	BCKDK (2)	0.00068	1.00000	9.50 1e-2	9.603 e-2	
Autism	X-linked epilepsy with or without intellectual disability and dysmorphic features	1	1	GABRA3 (5)	0.00068	1.00000	9.50 1e-2	9.603 e-2	
Bipolar disorder	X-linked epilepsy with or without intellectual disability and dysmorphic features	1	1	GABRA3 (4)	0.00082	1.00000	7.92 3e-2	8.034 e-2	
NACC1-related neurodevelopmental disorder with epilepsy, cataracts and episodic irritability	Obesity	1	1	NACC1 (2)	0.00084	1.00000	7.75 4e-2	7.875 e-2	
Early-onset epilepsy-intellectual disability-brain anomalies syndrome	Neurodevelopmental disorder	1	1	PIGG (4)	0.00106	1.00000	6.09 2e-2	6.246 e-2	
Intellectual developmental disorder seizures epilepsy	Neurodevelopmental disorder	1	1	AP2M1 (4)	0.00106	1.00000	6.09 2e-2	6.246 e-2	
NACC1-related neurodevelopmental disorder with epilepsy, cataracts and episodic irritability	Neurodevelopmental disorder	1	1	NACC1 (6)	0.00106	1.00000	6.09 2e-2	6.246 e-2	6
Neurodevelopmental disorder	neurodevelopmental disorder with epilepsy, spasticity, and brain atrophy	1	1	TRAPPC4 (5)	0.00106	1.00000	6.09 2e-2	6.246 e-2	6
Neurodevelopmental disorder	neurodevelopmental disorder with microcephaly, epilepsy, and brain atrophy	1	1	TRAPPC6B (4)	0.00106	1.00000	6.09 2e-2	6.246 e-2	6
Neurodevelopmental disorder	neurodevelopmental disorder with microcephaly, impaired language, epilepsy, and gait abnormalities	1	1	NARS1 (6)	0.00106	1.00000	6.09 2e-2	6.246 e-2	
Autism-epilepsy syndrome	Intellectual developmental disorder	1	1	BCKDK (2)	0.00123	1.00000	5.25 4e-2	5.421 e-2	
Early-onset epilepsy-intellectual disability-brain anomalies syndrome	Intellectual developmental disorder	1	1	PIGG (4)	0.00123	1.00000	5.25 4e-2	5.421 e-2	
Intellectual developmental disorder	Intellectual developmental disorder seizures epilepsy	1	1	AP2M1 (4)	0.00123	1.00000	5.25 4e-2	5.421 e-2	
Multiple sclerosis	X-linked epilepsy with or without intellectual disability and dysmorphic features	1	1	GABRA3 (4)	0.00173	1.00000	3.74 1e-2	3.926 e-2	
Autism-epilepsy syndrome	Parkinson disease	1	1	BCKDK (2)	0.00189	1.00000	3.43 6e-2	3.633 e-2	
Genetic generalized epilepsy	Parkinson disease	1	1	TNK2 (2)	0.00189	1.00000	3.43 6e-2	3.633 e-2	

Disease A	Disease B	Share d Genes	Corroborate d Shared Genes	Shared Gene Names	Similari ty Score	Overlap Coefficie nt	P- valu e	FDR Q- value	Shared Cluster
Congenital stromal corneal dystrophy	Epilepsy	1	1	SPARCL1 (3)	0.00426	0.50000	3.00 4e-2	3.192 e-2	
Epilepsy	Lewis lung carcinoma	1	1	TXNRD1 (2)	0.00426	0.50000	3.00 4e-2	3.192 e-2	
Intellectual developmental disorder seizures epilepsy	Non-specific syndromic intellectual disability	1	1	AP2M1 (3)	0.00271	1.00000	2.39 0e-2	2.570 e-2	
neurodevelopmental disorder with epilepsy, spasticity, and brain atrophy	Non-specific syndromic intellectual disability	1	1	TRAPPC4 (3)	0.00271	1.00000	2.39 0e-2	2.570 e-2	6
Eczema	Juvenile absence epilepsy	1	1	EFHC1 (2)	0.00273	1.00000	2.37 0e-2	2.555 e-2	
Male infertility round headed spermatozoa	Rolandic epilepsy	1	1	DPY19L2 (2)	0.01852	0.14286	2.11 8e-2	2.300 e-2	
Generalized epilepsy	Glycine encephalopathy	1	1	GLDC (7)	0.01429	0.20000	2.09 3e-2	2.274 e-2	
Gastroesophageal reflux disease	neonatal/infantile epilepsy syndrome	1	1	KCNH5 (2)	0.00357	1.00000	1.81 2e-2	1.980 e-2	
congenital muscular dystrophy with intellectual disability and severe epilepsy	Glaucoma	1	1	DPM2 (2)	0.00426	1.00000	1.52 0e-2	1.679 e-2	
1q44 microdeletion syndrome	Epilepsy	1	1	HNRNPU (3)	0.00427	1.00000	1.51 3e-2	1.674 e-2	
Ataxia with oculomotor apraxia and hypoalbuminemia	Epilepsy	1	1	APTX (2)	0.00427	1.00000	1.51 3e-2	1.674 e-2	
developmental and epileptic encephalopathy, 77	Epilepsy	1	1	PIGQ (2)	0.00427	1.00000	1.51 3e-2	1.674 e-2	
Early-onset seizures-distal limb anomalies-facial dysmorphism-global developmental delay syndrome	Epilepsy	1	1	OTUD6B (2)	0.00427	1.00000	1.51 3e-2	1.674 e-2	
Epilepsy	hermansky-pudlak syndrome 4	1	1	HPS4 (2)	0.00427	1.00000	1.51 3e-2	1.674 e-2	
Epilepsy	Intellectual developmental disorder dysmorphic seizures	1	1	OTUD6B (5)	0.00427	1.00000	1.51 3e-2	1.674 e-2	
Epilepsy	Intellectual developmental disorder seizures language	1	1	SETD1B (3)	0.00427	1.00000	1.51 3e-2	1.674 e-2	
Epilepsy	Juvenile absence epilepsy	1	1	EFHC1 (3)	0.00427	1.00000	1.51 3e-2	1.674 e-2	
Epilepsy	Neurogenic bladder	1	1	CHRM2 (2)	0.00427	1.00000	1.51 3e-2	1.674 e-2	
Epilepsy	Neurooculocardio-genitourinary syndrome	1	1	WDR37 (6)	0.00427	1.00000	1.51 3e-2	1.674 e-2	
Epilepsy	Partial corpus callosum agenesis	1	1	KPNA7 (3)	0.00427	1.00000	1.51 3e-2	1.674 e-2	

Disease A	Disease B	Share d Genes	Corroborate d Shared Genes	Shared Gene Names	Similarity Score	Overlap Coefficient	P-value	FDR Q-value	Shared Cluster
Epilepsy	X-linked epilepsy with learning disability and behavior disorder syndrome	1	0	SYN1 (1)	0.00427	1.00000	1.513e-2	1.674e-2	
Epilepsy	X-linked epilepsy with variable learning disabilities and behavior disorders	1	1	SYN1 (4)	0.00427	1.00000	1.513e-2	1.674e-2	
Epilepsy	X-linked epilepsy-learning disabilities-behavior disorders syndrome	1	1	SYN1 (2)	0.00427	1.00000	1.513e-2	1.674e-2	
Developmental and epileptic encephalopathy	Genetic generalized epilepsy	1	1	TNK2 (2)	0.00452	1.00000	1.429e-2	1.587e-2	
Developmental and epileptic encephalopathy	Hyperekplexia epilepsy syndrome	1	1	ARHGEF9 (5)	0.00452	1.00000	1.429e-2	1.587e-2	
Developmental and epileptic encephalopathy	neonatal/infantile epilepsy syndrome	1	1	KCNH5 (5)	0.00452	1.00000	1.429e-2	1.587e-2	
Optic atrophy	Progressive myoclonic epilepsy with renal failure	1	1	SEMA6B (4)	0.00549	1.00000	1.175e-2	1.316e-2	
Juvenile absence epilepsy	Peripheral arterial disease	1	1	EFHC1 (2)	0.00562	1.00000	1.149e-2	1.291e-2	
Early onset epilepsy with developmental delay	Psoriasis vulgaris	1	1	SETD1A (5)	0.01754	0.33333	1.048e-2	1.185e-2	
Genetic generalized epilepsy	Liver neoplasms	1	1	TNK2 (2)	0.00654	1.00000	9.871e-3	1.120e-2	
Developmental disability	Hyperekplexia epilepsy syndrome	1	1	ARHGEF9 (2)	0.00694	1.00000	9.287e-3	1.059e-2	
Developmental disability	neurodevelopmental disorder with microcephaly, impaired language, epilepsy, and gait abnormalities	1	1	NARS1 (2)	0.00694	1.00000	9.287e-3	1.059e-2	
Epilepsy due to perinatal stroke	Nonsyndromic intellectual disability	1	1	ST3GAL3 (2)	0.00704	1.00000	9.157e-3	1.046e-2	
Nonsyndromic intellectual disability	Progressive myoclonic epilepsy with renal failure	1	1	SEMA6B (5)	0.00704	1.00000	9.157e-3	1.046e-2	
15q13.3 microdeletion syndrome	Generalized epilepsy	1	1	CHRNA7 (5)	0.01493	0.50000	8.425e-3	9.757e-3	
Epilepsy due to perinatal stroke	Peptic ulcer disease	1	1	ST3GAL3 (2)	0.00820	1.00000	7.858e-3	9.135e-3	
Mitochondrial complex deficiency	neurodevelopmental disorder with microcephaly, impaired language, epilepsy, and gait abnormalities	1	1	NARS1 (2)	0.00833	1.00000	7.728e-3	9.016e-3	
complex neurodevelopmental disorder	Epilepsy due to perinatal stroke	1	1	ST3GAL3 (2)	0.00840	1.00000	7.663e-3	8.954e-3	
complex neurodevelopmental disorder	Intellectual developmental disorder seizures epilepsy	1	1	AP2M1 (3)	0.00840	1.00000	7.663e-3	8.954e-3	
1p36.33 duplication syndrome	Cerebellar hypoplasia/atrophy, epilepsy, and global developmental delay	1	1	ATAD3A (2)	0.02564	0.33333	6.998e-3	8.284e-3	

Disease A	Disease B	Share d Genes	Corroborate d Shared Genes	Shared Gene Names	Similarity Score	Overlap Coefficient	P- value	FDR Q- value	Shared Cluster
Bipolar depression	X-linked epilepsy with or without intellectual disability and dysmorphic features	1	1	GABRA3 (4)	0.00943	1.00000	6.81 e-3	8.095 e-3	
Congenital disorder of glycosylation	congenital muscular dystrophy with intellectual disability and severe epilepsy	1	1	DPM2 (4)	0.01000	1.00000	6.42 e-3	7.682 e-3	
Cardiac arrhythmia	Progressive myoclonic epilepsy with intracellular inclusions	1	1	PRDM8 (3)	0.01010	1.00000	6.36 e-3	7.629 e-3	
Lafora disease	Rolandic epilepsy	1	1	EPM2A (4)	0.02041	0.50000	6.09 e-3	7.332 e-3	
Lymphatic system disease	Rolandic epilepsy	1	0	PTPRM (1)	0.02041	0.50000	6.09 e-3	7.332 e-3	
Microcephaly, epilepsy, and diabetes syndrome	Rolandic epilepsy	1	1	IER3IP1 (5)	0.02041	0.50000	6.09 e-3	7.332 e-3	
Primary microcephaly-epilepsy-permanent neonatal diabetes syndrome	Rolandic epilepsy	1	1	IER3IP1 (3)	0.02041	0.50000	6.09 e-3	7.332 e-3	
Intellectual developmental disorder, x-linked	X-linked epilepsy with learning disability and behavior disorder syndrome	1	1	SYN1 (4)	0.01111	1.00000	5.78 e-3	6.997 e-3	
Intellectual developmental disorder, x-linked	X-linked epilepsy with variable learning disabilities and behavior disorders	1	1	SYN1 (5)	0.01111	1.00000	5.78 e-3	6.997 e-3	
Intellectual developmental disorder, x-linked	X-linked epilepsy-learning disabilities-behavior disorders syndrome	1	1	SYN1 (5)	0.01111	1.00000	5.78 e-3	6.997 e-3	
Congenital cataract hearing loss developmental delay syndrome	Partial epilepsy	1	1	SLC33A1 (3)	0.02174	0.50000	5.70 e-3	6.926 e-3	
Cortical dysplasia-focal epilepsy syndrome	Idiopathic pulmonary fibrosis	1	1	CNTNAP2 (4)	0.01205	1.00000	5.32 e-3	6.490 e-3	
Atrial flutter	Progressive myoclonic epilepsy with intracellular inclusions	1	1	PRDM8 (3)	0.01220	1.00000	5.26 e-3	6.419 e-3	
Epilepsy due to perinatal stroke	Intellectual disability	1	0	ST3GAL3 (1)	0.01299	1.00000	4.93 e-3	6.053 e-3	
Hyperekplexia epilepsy syndrome	Hypogonadism	1	1	ARHGEF9 (3)	0.01299	1.00000	4.93 e-3	6.053 e-3	
Female restricted epilepsy with intellectual disability	X-linked intellectual disability	1	0	PCDH19 (1)	0.01333	1.00000	4.80 e-3	5.921 e-3	
Hyperekplexia epilepsy syndrome	X-linked intellectual disability	1	1	ARHGEF9 (3)	0.01333	1.00000	4.80 e-3	5.921 e-3	115
Complex regional pain syndrome	Nocturnal frontal lobe epilepsy	1	1	SPAG1 (2)	0.05882	0.12500	4.66 e-3	5.787 e-3	
Benign adult familial myoclonic epilepsy	Myoclonic epilepsy	1	1	SAMD12 (2)	0.03704	0.33333	4.66 e-3	5.787 e-3	
Cerebellar hypoplasia/atrophy, epilepsy, and global developmental delay	Duplication 15q11-q13 syndrome	1	0	AUTS2 (1)	0.02632	0.50000	4.67 e-3	5.787 e-3	
Cerebellar hypoplasia/atrophy, epilepsy, and global developmental delay	Ocular anomalies with axonal neuropathy and developmental delay	1	1	ATAD3A (2)	0.02632	0.50000	4.67 e-3	5.787 e-3	

Disease A	Disease B	Share d Genes	Corroborate d Shared Genes	Shared Gene Names	Similari ty Score	Overlap Coefficie nt	P- valu e	FDR Q- value	Shared Cluster
Early-onset spastic ataxia-myoclonic epilepsy-neuropathy syndrome	Spastic ataxia	1	1	AFG3L2 (6)	0.01408	1.00000	4.54 6e-3	5.668 e-3	
Congenital cerebellar ataxia	Temporal lobe epilepsy	1	1	GRM1 (3)	0.02857	0.50000	4.28 2e-3	5.383 e-3	
Lymphatic system disease	Temporal lobe epilepsy	1	1	SLC12A2 (3)	0.02857	0.50000	4.28 2e-3	5.383 e-3	
Axonal neuropathy	Generalized epilepsy	1	0	GBF1 (1)	0.01515	1.00000	4.22 1e-3	5.316 e-3	
Casgid syndrome	Generalized epilepsy	1	1	GLS (2)	0.01515	1.00000	4.22 1e-3	5.316 e-3	
exostoses, multiple, type 1	Generalized epilepsy	1	1	EXT1 (2)	0.01515	1.00000	4.22 1e-3	5.316 e-3	
Generalized epilepsy	Glutaminase deficiency	1	1	GLS (4)	0.01515	1.00000	4.22 1e-3	5.316 e-3	
Generalized epilepsy	hermansky-pudlak syndrome 4	1	1	HPS4 (2)	0.01515	1.00000	4.22 1e-3	5.316 e-3	
Generalized epilepsy	infantile cataract, skin abnormalities, glutamate excess, and impaired intellectual development	1	1	GLS (2)	0.01515	1.00000	4.22 1e-3	5.316 e-3	
Conotruncal cardiac defect	neonatal/infantile epilepsy syndrome	1	1	KCNH5 (2)	0.01563	1.00000	4.09 1e-3	5.162 e-3	
Aortic aneurysm	neonatal/infantile epilepsy syndrome	1	1	KCNH5 (2)	0.01587	1.00000	4.02 6e-3	5.087 e-3	12
Childhood absence epilepsy	Synovial disorder	1	1	GABRB3 (4)	0.06250	0.16667	3.89 1e-3	4.941 e-3	47
Amish infantile epilepsy syndrome	Hashimoto disease	1	1	ATXN2 (2)	0.03448	0.50000	3.50 4e-3	4.517 e-3	
Central nervous system malformation	Progressive myoclonic epilepsy	1	1	LMNB2 (5)	0.03846	0.50000	3.11 5e-3	4.096 e-3	
Lafora disease	Progressive myoclonic epilepsy	1	1	NHLRC1 (4)	0.03846	0.50000	3.11 5e-3	4.096 e-3	329
ASAH1-related sphingolipidosis	Rolandic epilepsy	1	1	ASAH1 (2)	0.02083	1.00000	3.05 2e-3	4.025 e-3	
Cortical dysplasia-focal epilepsy syndrome	Rolandic epilepsy	1	1	CNTNAP2 (4)	0.02083	1.00000	3.05 2e-3	4.025 e-3	
Early-onset hypertension with severe exacerbation in pregnancy	Rolandic epilepsy	1	1	NR3C2 (4)	0.02083	1.00000	3.05 2e-3	4.025 e-3	
Farber disease	Rolandic epilepsy	1	1	ASAH1 (2)	0.02083	1.00000	3.05 2e-3	4.025 e-3	
Female restricted epilepsy with intellectual disability	Rolandic epilepsy	1	1	PCDH19 (2)	0.02083	1.00000	3.05 2e-3	4.025 e-3	47
Myoclonus-renal failure syndrome	Rolandic epilepsy	1	1	SCARB2 (2)	0.02083	1.00000	3.05 2e-3	4.025 e-3	

Disease A	Disease B	Share d Genes	Corroborate d Shared Genes	Shared Gene Names	Similari ty Score	Overlap Coefficie nt	P- valu e	FDR Q- value	Shared Cluster
pseudohyperaldosteronism type 2	Rolandic epilepsy	1	1	NR3C2 (2)	0.02083	1.00000	3.05 2e-3	4.025 e-3	
Pseudohypoaldosteronism	Rolandic epilepsy	1	1	NR3C2 (4)	0.02083	1.00000	3.05 2e-3	4.025 e-3	
Rolandic epilepsy	self-limited familial neonatal epilepsy	1	1	KCNQ3 (2)	0.02083	1.00000	3.05 2e-3	4.025 e-3	
Epilepsy of infancy with migrating focal seizures	Myoclonic encephalopathy	1	1	SLC25A22 (3)	0.07143	0.20000	2.91 9e-3	3.876 e-3	
Coloboma	Early onset vitamin b6 dependent epilepsy	1	1	ALDH7A1 (2)	0.05556	0.33333	2.92 0e-3	3.876 e-3	
Bronchopulmonary dysplasia	Genetic generalized epilepsy	1	0	TNK2 (1)	0.02174	1.00000	2.92 2e-3	3.876 e-3	119
Axonal neuropathy	Partial epilepsy	1	0	GBF1 (1)	0.02222	1.00000	2.85 8e-3	3.806 e-3	
exostoses, multiple, type 1	Partial epilepsy	1	1	EXT1 (2)	0.02222	1.00000	2.85 8e-3	3.806 e-3	
Absence epilepsy	Synovial disorder	1	1	GABRB3 (2)	0.07692	0.16667	2.72 5e-3	3.665 e-3	47
Complex partial epilepsy	Developmental delay	1	1	SCN3A (2)	0.02564	1.00000	2.46 8e-3	3.371 e-3	
Early-onset spastic ataxia-myoclonic epilepsy-neuropathy syndrome	Glycogen storage disease	1	1	AFG3L2 (2)	0.02632	1.00000	2.40 3e-3	3.313 e-3	
AHDC1-related intellectual disability - obstructive sleep apnea - mild dysmorphism syndrome	Cerebellar hypoplasia/atrophy, epilepsy, and global developmental delay	1	1	AHDC1 (2)	0.02703	1.00000	2.33 8e-3	3.243 e-3	
Cerebellar hypoplasia	Cerebellar hypoplasia/atrophy, epilepsy, and global developmental delay	1	0	VLDLR (1)	0.02703	1.00000	2.33 8e-3	3.243 e-3	
Complex partial epilepsy	genetic developmental and epileptic encephalopathy	1	1	SCN3A (3)	0.02703	1.00000	2.33 8e-3	3.243 e-3	
Cerebellar hypoplasia/atrophy, epilepsy, and global developmental delay	Congenital cerebellar hypoplasia	1	1	OXR1 (3)	0.02703	1.00000	2.33 8e-3	3.243 e-3	
Cerebellar hypoplasia/atrophy, epilepsy, and global developmental delay	Corpus callosum agenesis with facial anomalies and robin sequence	1	0	DDX3X (1)	0.02703	1.00000	2.33 8e-3	3.243 e-3	
Cerebellar hypoplasia/atrophy, epilepsy, and global developmental delay	Developmental delay with or without epilepsy	1	1	SPTAN1 (3)	0.02703	1.00000	2.33 8e-3	3.243 e-3	
Cerebellar hypoplasia/atrophy, epilepsy, and global developmental delay	hyperinsulinemic hypoglycemia with polycystic kidney disease	1	1	PMM2 (2)	0.02703	1.00000	2.33 8e-3	3.243 e-3	
Cerebellar hypoplasia/atrophy, epilepsy, and global developmental delay	Ichthyosis vulgaris	1	1	FLG (2)	0.02703	1.00000	2.33 8e-3	3.243 e-3	
Cerebellar hypoplasia/atrophy, epilepsy, and global developmental delay	lissencephaly spectrum disorder with complex brainstem malformation	1	1	MACF1 (2)	0.02703	1.00000	2.33 8e-3	3.243 e-3	

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Cerebellar hypoplasia/atrophy, epilepsy, and global developmental delay	Neurooculocardio-genitourinary syndrome	1	1	WDR37 (6)	0.02703	1.00000	2.338e-3	3.243e-3	
Cerebellar hypoplasia/atrophy, epilepsy, and global developmental delay	PMM2-congenital disorder of glycosylation	1	1	PMM2 (2)	0.02703	1.00000	2.338e-3	3.243e-3	
Cerebellar hypoplasia/atrophy, epilepsy, and global developmental delay	Progressive myoclonic epilepsy with renal failure	1	1	SEMA6B (4)	0.02703	1.00000	2.338e-3	3.243e-3	
genetic developmental and epileptic encephalopathy	self-limited familial neonatal epilepsy	1	0	KCNQ3 (1)	0.02703	1.00000	2.338e-3	3.243e-3	
Cerebellar hypoplasia/atrophy, epilepsy, and global developmental delay	SETD2-related microcephaly-severe intellectual disability-multiple congenital anomalies syndrome	1	1	SETD2 (2)	0.02703	1.00000	2.338e-3	3.243e-3	
Cerebellar hypoplasia/atrophy, epilepsy, and global developmental delay	SETD2-related neurodevelopmental disorder without or with macrocephaly/overgrowth	1	1	SETD2 (2)	0.02703	1.00000	2.338e-3	3.243e-3	
Cerebellar hypoplasia/atrophy, epilepsy, and global developmental delay	X-linked intellectual disability-cerebellar hypoplasia syndrome	1	1	OPHN1 (2)	0.02703	1.00000	2.338e-3	3.243e-3	
Cerebellar hypoplasia/atrophy, epilepsy, and global developmental delay	Xia-gibbs syndrome	1	1	AHDC1 (3)	0.02703	1.00000	2.338e-3	3.243e-3	
Female restricted epilepsy with intellectual disability	X-linked complex neurodevelopmental disorder	1	1	PCDH19 (3)	0.02778	1.00000	2.273e-3	3.191e-3	
Hyperekplexia epilepsy syndrome	X-linked complex neurodevelopmental disorder	1	1	ARHGEF9 (4)	0.02778	1.00000	2.273e-3	3.191e-3	115
Benign prostatic hyperplasia	neurodevelopmental disorder with hypotonia, epilepsy, and absent speech	1	1	UNC13A (2)	0.02778	1.00000	2.273e-3	3.191e-3	
X-linked complex neurodevelopmental disorder	X-linked epilepsy with learning disability and behavior disorder syndrome	1	1	SYN1 (2)	0.02778	1.00000	2.273e-3	3.191e-3	
X-linked complex neurodevelopmental disorder	X-linked epilepsy with variable learning disabilities and behavior disorders	1	1	SYN1 (5)	0.02778	1.00000	2.273e-3	3.191e-3	
X-linked complex neurodevelopmental disorder	X-linked epilepsy-learning disabilities-behavior disorders syndrome	1	1	SYN1 (3)	0.02778	1.00000	2.273e-3	3.191e-3	
Female restricted epilepsy with intellectual disability	Strabismus	1	1	PCDH19 (2)	0.02857	1.00000	2.208e-3	3.113e-3	
Benign mesial temporal lobe epilepsy	Temporal lobe epilepsy	1	1	CPA6 (3)	0.02941	1.00000	2.143e-3	3.044e-3	
Chondromyxoid fibroma	Temporal lobe epilepsy	1	1	GRM1 (3)	0.02941	1.00000	2.143e-3	3.044e-3	
Congenital contracture of limbs and face, hypotonia, developmental delay syndrome	Temporal lobe epilepsy	1	1	NALCN (4)	0.02941	1.00000	2.143e-3	3.044e-3	
Congenital limbs-face contractures-hypotonia-developmental delay syndrome	Temporal lobe epilepsy	1	1	NALCN (2)	0.02941	1.00000	2.143e-3	3.044e-3	
Cortical dysplasia-focal epilepsy syndrome	Hyperkinesia	1	1	CNTNAP2 (4)	0.02941	1.00000	2.143e-3	3.044e-3	

Disease A	Disease B	Share d Genes	Corroborate d Shared Genes	Shared Gene Names	Similari ty Score	Overlap Coefficie nt	P- valu e	FDR Q- value	Shared Cluster
Delpire-mcneill syndrome	Temporal lobe epilepsy	1	1	SLC12A2 (4)	0.02941	1.00000	2.14 3e-3	3.044 e-3	
Developmental delay with or without epilepsy	Jeune thoracic dystrophy	1	1	SPTAN1 (3)	0.02941	1.00000	2.14 3e-3	3.044 e-3	22
Dicarboxylic aminoaciduria	Temporal lobe epilepsy	1	1	SLC1A1 (7)	0.02941	1.00000	2.14 3e-3	3.044 e-3	
Early-onset spastic ataxia-myoclonic epilepsy-neuropathy syndrome	Hyperkinesia	1	1	AFG3L2 (2)	0.02941	1.00000	2.14 3e-3	3.044 e-3	
Parkinson-dementia syndrome	Temporal lobe epilepsy	1	1	MAPT (2)	0.02941	1.00000	2.14 3e-3	3.044 e-3	
Epilepsy with auditory features	Familial focal epilepsy with variable foci	1	1	DEPDC5 (4)	0.08333	0.25000	2.07 7e-3	2.969 e-3	
Developmental delay with or without epilepsy	Distal spinal muscular atrophy	1	1	SPTAN1 (3)	0.03125	1.00000	2.01 3e-3	2.901 e-3	
Focal onset epileptic seizure	Frontal lobe epilepsy	1	1	CHRNA2 (2)	0.09091	0.20000	1.94 7e-3	2.828 e-3	273
Early onset vitamin b6 dependent epilepsy	Myelomonocytic leukemia	1	1	CBL (5)	0.07692	0.33333	1.94 7e-3	2.828 e-3	
Developmental delay with or without epilepsy	West syndrome	1	1	SPTAN1 (3)	0.03226	1.00000	1.94 8e-3	2.828 e-3	
Epilepsy due to perinatal stroke	West syndrome	1	0	ST3GAL3 (1)	0.03226	1.00000	1.94 8e-3	2.828 e-3	328
Childhood-onset epilepsy syndrome	Nocturnal frontal lobe epilepsy	1	1	KCNT1 (6)	0.08333	0.33333	1.75 3e-3	2.609 e-3	273
Childhood-onset epilepsy syndrome	Epilepsy of infancy with migrating focal seizures	1	1	KCNT1 (3)	0.08333	0.33333	1.75 3e-3	2.609 e-3	
Childhood-onset epilepsy syndrome	Malignant migrating partial seizures of infancy	1	1	KCNT1 (2)	0.08333	0.33333	1.75 3e-3	2.609 e-3	
progressive myoclonus epilepsy	Right atrial isomerism	1	1	CERS1 (2)	0.08333	0.33333	1.75 3e-3	2.609 e-3	
Aneurysm	neonatal/infantile epilepsy syndrome	1	1	KCNH5 (2)	0.03571	1.00000	1.75 3e-3	2.609 e-3	12
Cortical dysplasia-focal epilepsy syndrome	Language development disorders	1	1	CNTNAP2 (4)	0.03704	1.00000	1.68 9e-3	2.531 e-3	179
Focal epilepsy with speech disorder and impaired intellectual development	Language development disorders	1	1	GRIN2A (3)	0.03704	1.00000	1.68 9e-3	2.531 e-3	
Congenital ocular coloboma	Juvenile myoclonic epilepsy	1	1	CILK1 (2)	0.03704	1.00000	1.68 9e-3	2.531 e-3	
Bronchus cancer	Frontal lobe epilepsy	1	1	CHRNA4 (3)	0.10000	0.20000	1.62 3e-3	2.461 e-3	
Complex partial epilepsy	Polymicrogyria	1	1	SCN3A (2)	0.03846	1.00000	1.62 4e-3	2.461 e-3	

Disease A	Disease B	Share d Genes	Corroborate d Shared Genes	Shared Gene Names	Similarity Score	Overlap Coefficient	P- value	FDR Q- value	Shared Cluster
Early onset epilepsy with developmental delay	Familial adult myoclonic epilepsy	1	1	CNTN2 (5)	0.09091	0.33333	1.55 8e-3	2.376 e-3	357
Adult myoclonic epilepsy	Early onset epilepsy with developmental delay	1	1	CNTN2 (4)	0.09091	0.33333	1.55 8e-3	2.376 e-3	357
Amish infantile epilepsy syndrome	Latent autoimmune diabetes in adults	1	1	ATXN2 (2)	0.07143	0.50000	1.55 8e-3	2.376 e-3	
Periapical periodontitis	Tonic-clonic epilepsy	1	1	FGF2 (2)	0.07143	0.50000	1.55 8e-3	2.376 e-3	330
Tonic-clonic epilepsy	Water intoxication	1	1	OXT (2)	0.07143	0.50000	1.55 8e-3	2.376 e-3	
17-beta-hydroxysteroid dehydrogenase deficiency	Myoclonic epilepsy	1	1	HSD17B3 (4)	0.04000	1.00000	1.55 9e-3	2.376 e-3	
Charcot-Marie-Tooth disease type 1A	Myoclonic epilepsy	1	1	PMP22 (3)	0.04000	1.00000	1.55 9e-3	2.376 e-3	
frontotemporal dementia and/or amyotrophic lateral sclerosis 1	Progressive myoclonic epilepsy	1	1	C9orf72 (2)	0.04000	1.00000	1.55 9e-3	2.376 e-3	
Hereditary neuropathy with liability to pressure palsies	Myoclonic epilepsy	1	1	PMP22 (4)	0.04000	1.00000	1.55 9e-3	2.376 e-3	
Juvenile absence epilepsy	Myoclonic epilepsy	1	1	EFHC1 (3)	0.04000	1.00000	1.55 9e-3	2.376 e-3	47
Juvenile myoclonic epilepsy	Myoclonic epilepsy	1	1	CILK1 (3)	0.04000	1.00000	1.55 9e-3	2.376 e-3	
Juvenile myoclonic epilepsy	Short rib dysplasia-polydactyly syndrome	1	1	CILK1 (2)	0.04000	1.00000	1.55 9e-3	2.376 e-3	
myasthenic syndrome, congenital, 1b, fast-channel	Myoclonic epilepsy	1	1	CHRNA1 (2)	0.04000	1.00000	1.55 9e-3	2.376 e-3	
Myoclonus-renal failure syndrome	Progressive myoclonic epilepsy	1	1	SCARB2 (6)	0.04000	1.00000	1.55 9e-3	2.376 e-3	329
Myoclonic epilepsy	neurodegeneration, childhood-onset, with cerebellar ataxia and cognitive decline	1	1	CAPRN1 (2)	0.04000	1.00000	1.55 9e-3	2.376 e-3	
Myoclonic epilepsy	neurodevelopmental disorder with language impairment, autism, and attention deficit-hyperactivity disorder	1	1	CAPRN1 (2)	0.04000	1.00000	1.55 9e-3	2.376 e-3	
Progressive myoclonic epilepsy	Progressive myoclonic epilepsy with renal failure	1	1	SEMA6B (5)	0.04000	1.00000	1.55 9e-3	2.376 e-3	329
Myoclonic epilepsy	self-limited familial neonatal epilepsy	1	1	KCNQ3 (3)	0.04000	1.00000	1.55 9e-3	2.376 e-3	
Developmental delay with or without epilepsy	Short-rib thoracic dysplasia	1	1	SPTAN1 (3)	0.04167	1.00000	1.49 4e-3	2.313 e-3	22
Benign mesial temporal lobe epilepsy	Febrile convulsion	1	1	CPA6 (5)	0.04348	1.00000	1.42 9e-3	2.226 e-3	

Disease A	Disease B	Share d Genes	Corroborate d Shared Genes	Shared Gene Names	Similari ty Score	Overlap Coefficie nt	P- valu e	FDR Q- value	Shared Cluster
Congenital muscular dystrophy	congenital muscular dystrophy with intellectual disability and severe epilepsy	1	1	DPM2 (4)	0.04348	1.00000	1.42 9e-3	2.226 e-3	
Febrile convulsion	neurodevelopmental disorder with hypotonia, epilepsy, and absent speech	1	1	UNC13A (2)	0.04348	1.00000	1.42 9e-3	2.226 e-3	
Bladder disease	Epilepsy with myoclonic atonic seizures	1	1	SLC6A1 (3)	0.10000	0.33333	1.36 3e-3	2.148 e-3	
Benign neonatal epilepsy	Hemiplegia	1	1	SCN2A (2)	0.11111	0.25000	1.29 8e-3	2.063 e-3	165
Cortical dysplasia-focal epilepsy syndrome	Specific language disorder	1	1	CNTNAP2 (4)	0.05000	1.00000	1.23 4e-3	1.986 e-3	179
Benign myoclonic epilepsy	Early onset epilepsy with developmental delay	1	1	CNTN2 (4)	0.11111	0.33333	1.16 9e-3	1.895 e-3	357
Benign infantile epilepsy	familial sleep-related hypermotor epilepsy	1	1	CHRNA2 (2)	0.11111	0.33333	1.16 9e-3	1.895 e-3	
familial sleep-related hypermotor epilepsy	Focal onset epileptic seizure	1	1	CHRNA2 (2)	0.11111	0.33333	1.16 9e-3	1.895 e-3	273
Cone-rod synaptic disorder	Nocturnal frontal lobe epilepsy	1	1	CABP4 (4)	0.09091	0.50000	1.16 9e-3	1.895 e-3	
Anorexia	Atypical absence epilepsy	1	1	NPY (2)	0.05263	1.00000	1.16 9e-3	1.895 e-3	
Chorea	Early-onset spastic ataxia-myoclonic epilepsy-neuropathy syndrome	1	1	AFG3L2 (2)	0.05263	1.00000	1.16 9e-3	1.895 e-3	
Anorexia	Minor epilepsy	1	1	NPY (2)	0.05263	1.00000	1.16 9e-3	1.895 e-3	
Developmental regression	neurodevelopmental disorder with hypotonia, epilepsy, and absent speech	1	1	UNC13A (2)	0.05263	1.00000	1.16 9e-3	1.895 e-3	
Potassium deficiency	Progressive myoclonic epilepsy with intracellular inclusions	1	1	PRDM8 (3)	0.05263	1.00000	1.16 9e-3	1.895 e-3	
Epilepsy with auditory features	Focal epilepsy	1	1	DEPDC5 (3)	0.12500	0.25000	1.03 9e-3	1.739 e-3	
Focal epilepsy	Lateral temporal lobe epilepsy	1	1	DEPDC5 (2)	0.12500	0.25000	1.03 9e-3	1.739 e-3	
Adult myoclonic epilepsy	Cri-du-chat syndrome	1	1	CTNND2 (2)	0.10000	0.50000	1.03 9e-3	1.739 e-3	
Amelocerebrohypohidrotic syndrome	Pyridoxine dependent epilepsy	1	1	SLC13A5 (3)	0.10000	0.50000	1.03 9e-3	1.739 e-3	365
Continuous spike and wave during slow wave sleep syndrome	Pyridoxine dependent epilepsy	1	0	GRIN2A (1)	0.10000	0.50000	1.03 9e-3	1.739 e-3	365
Dna repair-deficiency disorders	Pyridoxine dependent epilepsy	1	1	PNKP (2)	0.10000	0.50000	1.03 9e-3	1.739 e-3	
Atypical absence epilepsy	Seasonal affective disorder	1	0	NPY (1)	0.05882	1.00000	1.03 9e-3	1.739 e-3	

Disease A	Disease B	Share d Genes	Corroborate d Shared Genes	Shared Gene Names	Similari ty Score	Overlap Coefficie nt	P- valu e	FDR Q- value	Shared Cluster
Benign mesial temporal lobe epilepsy	Generalized epilepsy with febrile seizures plus	1	1	CPA6 (3)	0.05882	1.00000	1.03 9e-3	1.739 e-3	
congenital muscular dystrophy with intellectual disability and severe epilepsy	Primary angle closure glaucoma	1	1	DPM2 (2)	0.05882	1.00000	1.03 9e-3	1.739 e-3	21
Minor epilepsy	Seasonal affective disorder	1	0	NPY (1)	0.05882	1.00000	1.03 9e-3	1.739 e-3	
Benign adult familial myoclonic epilepsy	Cyanosis	1	1	ADRA2B (2)	0.12500	0.33333	9.73 9e-4	1.665 e-3	
Childhood-onset epilepsy syndrome	Frontal lobe epilepsy	1	1	KCNT1 (3)	0.12500	0.33333	9.73 9e-4	1.665 e-3	273
Bronchus cancer	familial sleep-related hypermotor epilepsy	1	1	CHRNA4 (2)	0.12500	0.33333	9.73 9e-4	1.665 e-3	
familial sleep-related hypermotor epilepsy	Respiratory system cancer	1	1	CHRNA4 (2)	0.12500	0.33333	9.73 9e-4	1.665 e-3	
Absence epilepsy	Birk-barel syndrome	1	1	KCNK9 (5)	0.11111	0.50000	9.09 0e-4	1.576 e-3	
Continuous spike and wave during slow wave sleep syndrome	Familial temporal lobe epilepsy	1	0	GRIN2A (1)	0.11111	0.50000	9.09 0e-4	1.576 e-3	
Familial temporal lobe epilepsy	lissencephaly with cerebellar hypoplasia	1	1	RELN (5)	0.11111	0.50000	9.09 0e-4	1.576 e-3	
generalized epilepsy-paroxysmal dyskinesia syndrome	Metabolic bone disorder	1	1	KCNMA1 (2)	0.06667	1.00000	9.09 2e-4	1.576 e-3	
Focal epilepsy	Roifman syndrome	1	1	CLASP1 (2)	0.14286	0.33333	7.79 2e-4	1.405 e-3	
Benign myoclonic epilepsy	Cri-du-chat syndrome	1	1	CTNND2 (2)	0.12500	0.50000	7.79 2e-4	1.405 e-3	
Butyrylcholinesterase deficiency	Tonic-clonic epilepsy	1	1	BCHE (5)	0.07692	1.00000	7.79 3e-4	1.405 e-3	
Congenital sensory neuropathy	Tonic-clonic epilepsy	1	1	NGF (3)	0.07692	1.00000	7.79 3e-4	1.405 e-3	330
Cyp2d6 deficiency	Tonic-clonic epilepsy	1	1	CYP2D6 (3)	0.07692	1.00000	7.79 3e-4	1.405 e-3	
generalized epilepsy-paroxysmal dyskinesia syndrome	Idiopathic generalized epilepsy	1	1	KCNMA1 (2)	0.07692	1.00000	7.79 3e-4	1.405 e-3	
Idiopathic generalized epilepsy	sick sinus syndrome 2, autosomal dominant	1	1	HCN4 (2)	0.07692	1.00000	7.79 3e-4	1.405 e-3	
Prostatic disease	Tonic-clonic epilepsy	1	1	OXT (2)	0.07692	1.00000	7.79 3e-4	1.405 e-3	
Thyrotoxic periodic paralysis	X-linked epilepsy with or without intellectual disability and dysmorphic features	1	1	GABRA3 (5)	0.07692	1.00000	7.79 3e-4	1.405 e-3	1
Tonic-clonic epilepsy	Trismus	1	1	BCHE (2)	0.07692	1.00000	7.79 3e-4	1.405 e-3	

Disease A	Disease B	Share d Genes	Corroborate d Shared Genes	Shared Gene Names	Similarity Score	Overlap Coefficient	P-value	FDR Q-value	Shared Cluster
Early-onset epilepsy-intellectual disability-brain anomalies syndrome	Hyperphosphatasia with intellectual disability syndrome	1	1	PIGG (2)	0.08333	1.00000	7.14 4e-4	1.335 e-3	
Atypical absence epilepsy	Childhood absence epilepsy	1	0	NPY (1)	0.09091	1.00000	6.49 4e-4	1.241 e-3	
Childhood absence epilepsy	Conn syndrome	1	1	CACNA1H (4)	0.09091	1.00000	6.49 4e-4	1.241 e-3	47
Complex partial epilepsy	Perisylvian syndrome	1	1	SCN3A (2)	0.09091	1.00000	6.49 4e-4	1.241 e-3	
Craniodiaphyseal dysplasia	Juvenile myoclonic epilepsy	1	1	CILK1 (2)	0.09091	1.00000	6.49 4e-4	1.241 e-3	
Childhood absence epilepsy	Minor epilepsy	1	0	NPY (1)	0.09091	1.00000	6.49 4e-4	1.241 e-3	
Childhood absence epilepsy	Nasal obstruction	1	1	NPY (2)	0.09091	1.00000	6.49 4e-4	1.241 e-3	
Hypertensive heart disease	Progressive myoclonic epilepsy with intracellular inclusions	1	1	PRDM8 (3)	0.09091	1.00000	6.49 4e-4	1.241 e-3	
Antithrombin deficiency	Myoclonic epilepsy with ragged red fibers	1	1	IL1B (2)	0.16667	0.33333	5.84 4e-4	1.156 e-3	
Childhood-onset epilepsy syndrome	Early onset epilepsy with developmental delay	1	1	ATP6V0C (4)	0.16667	0.33333	5.84 4e-4	1.156 e-3	
Early onset vitamin b6 dependent epilepsy	Neonatal convulsions	1	1	ALDH7A1 (2)	0.16667	0.33333	5.84 4e-4	1.156 e-3	
Myoclonus-renal failure syndrome	progressive myoclonus epilepsy	1	1	SCARB2 (2)	0.10000	1.00000	5.84 5e-4	1.156 e-3	329
Epilepsy of infancy with migrating focal seizures	neonatal encephalopathy with non-epileptic myoclonus	1	1	KCNQ2 (2)	0.10000	1.00000	5.84 5e-4	1.156 e-3	
Epilepsy of infancy with migrating focal seizures	neonatal-onset developmental and epileptic encephalopathy	1	1	KCNQ2 (2)	0.10000	1.00000	5.84 5e-4	1.156 e-3	
Nocturnal frontal lobe epilepsy	primary ciliary dyskinesia 28	1	1	SPAG1 (2)	0.10000	1.00000	5.84 5e-4	1.156 e-3	
Progressive myoclonic epilepsy with renal failure	progressive myoclonus epilepsy	1	1	SEMA6B (5)	0.10000	1.00000	5.84 5e-4	1.156 e-3	329
Epilepsy with auditory features	lissencephaly with cerebellar hypoplasia	1	1	RELN (3)	0.16667	0.50000	5.19 5e-4	1.061 e-3	
Lateral temporal lobe epilepsy	lissencephaly with cerebellar hypoplasia	1	1	RELN (2)	0.16667	0.50000	5.19 5e-4	1.061 e-3	
Complex partial epilepsy	Familial focal epilepsy with variable foci	1	1	SCN3A (4)	0.11111	1.00000	5.19 5e-4	1.061 e-3	
Continuous spike and wave during sleep syndrome	Pyridoxine dependent epilepsy	1	1	GRIN2A (2)	0.11111	1.00000	5.19 5e-4	1.061 e-3	365
Familial focal epilepsy with variable foci	Trident hand	1	0	NPR2 (1)	0.11111	1.00000	5.19 5e-4	1.061 e-3	

Disease A	Disease B	Share d Genes	Corroborate d Shared Genes	Shared Gene Names	Similari ty Score	Overlap Coefficie nt	P- valu e	FDR Q- value	Shared Cluster
Dravet syndrome	Female restricted epilepsy with intellectual disability	1	1	PCDH19 (3)	0.11111	1.00000	5.19 5e-4	1.061 e-3	47
Focal epilepsy with speech disorder and impaired intellectual development	Pyridoxine dependent epilepsy	1	1	GRIN2A (3)	0.11111	1.00000	5.19 5e-4	1.061 e-3	365
microcephaly, seizures, and developmental delay	Pyridoxine dependent epilepsy	1	1	PNKP (2)	0.11111	1.00000	5.19 5e-4	1.061 e-3	
myopathy caused by variation in POMT1	Pyridoxine dependent epilepsy	1	1	POMT1 (2)	0.11111	1.00000	5.19 5e-4	1.061 e-3	
obsolete early infantile epileptic encephalopathy	Pyridoxine dependent epilepsy	1	1	GAD1 (2)	0.11111	1.00000	5.19 5e-4	1.061 e-3	
Absence epilepsy	Benign paroxysmal torticollis of infancy	1	1	CACNA1A (3)	0.12500	1.00000	4.54 6e-4	9.726 e-4	
Absence epilepsy	Conn syndrome	1	1	CACNA1H (2)	0.12500	1.00000	4.54 6e-4	9.726 e-4	47
Absence epilepsy	Juvenile absence epilepsy	1	1	EFHC1 (2)	0.12500	1.00000	4.54 6e-4	9.726 e-4	47
Autism-epilepsy syndrome	Maple syrup urine disease	1	1	BCKDK (2)	0.12500	1.00000	4.54 6e-4	9.726 e-4	
Benign mesial temporal lobe epilepsy	Familial temporal lobe epilepsy	1	1	CPA6 (4)	0.12500	1.00000	4.54 6e-4	9.726 e-4	
Continuous spike and wave during sleep syndrome	Familial temporal lobe epilepsy	1	1	GRIN2A (2)	0.12500	1.00000	4.54 6e-4	9.726 e-4	
Early-onset epilepsy-intellectual disability-brain anomalies syndrome	Wolf-hirschhorn syndrome	1	1	PIGG (2)	0.12500	1.00000	4.54 6e-4	9.726 e-4	159
Epilepsy with myoclonic atonic seizures	familial hemiplegic migraine	1	1	SCN1A (2)	0.12500	1.00000	4.54 6e-4	9.726 e-4	
Chromosome 17q23.1-q23.2 deletion syndrome	Epilepsy with myoclonic atonic seizures	1	1	SLC2A1 (2)	0.12500	1.00000	4.54 6e-4	9.726 e-4	124
Epilepsy with myoclonic atonic seizures	GLUT1 deficiency syndrome	1	1	SLC2A1 (2)	0.12500	1.00000	4.54 6e-4	9.726 e-4	124
Epilepsy with myoclonic absence	Epilepsy with myoclonic atonic seizures	1	1	SLC2A1 (2)	0.12500	1.00000	4.54 6e-4	9.726 e-4	124
Epilepsy with myoclonic atonic seizures	Intellectual developmental disorder seizures epilepsy	1	1	AP2M1 (3)	0.12500	1.00000	4.54 6e-4	9.726 e-4	124
Familial temporal lobe epilepsy	Sacroiliac arthritis	1	1	RELN (4)	0.12500	1.00000	4.54 6e-4	9.726 e-4	
Familial temporal lobe epilepsy	Sacroiliac joint synovitis	1	1	RELN (4)	0.12500	1.00000	4.54 6e-4	9.726 e-4	
Familial temporal lobe epilepsy	Focal epilepsy with speech disorder and impaired intellectual development	1	1	GRIN2A (3)	0.12500	1.00000	4.54 6e-4	9.726 e-4	
generalized epilepsy-paroxysmal dyskinesia syndrome	Gingival diseases	1	1	KCNMA1 (2)	0.12500	1.00000	4.54 6e-4	9.726 e-4	

Disease A	Disease B	Share d Genes	Corroborate d Shared Genes	Shared Gene Names	Similari ty Score	Overlap Coefficie nt	P- valu e	FDR Q- value	Shared Cluster
Congenital cardiomyopathy	Myoclonic epilepsy with ragged red fibers	1	0	ND5 (1)	0.20000	0.50000	3.89 6e-4	8.665 e-4	32
Myoclonic epilepsy with ragged red fibers	Pyogenic arthritis-pyoderma gangrenosum-acne syndrome	1	1	IL1B (2)	0.20000	0.50000	3.89 6e-4	8.665 e-4	
Benign infantile epilepsy	neonatal-onset developmental and epileptic encephalopathy	1	1	KCNQ2 (3)	0.14286	1.00000	3.89 7e-4	8.665 e-4	165
Choreoathetosis	Epilepsy with myoclonic absence	1	1	SLC2A1 (3)	0.14286	1.00000	3.89 7e-4	8.665 e-4	124
Benign infantile epilepsy	Cognitive impairment with or without cerebellar ataxia	1	1	SCN8A (6)	0.14286	1.00000	3.89 7e-4	8.665 e-4	165
Benign infantile epilepsy	neonatal encephalopathy with non-epileptic myoclonus	1	1	KCNQ2 (3)	0.14286	1.00000	3.89 7e-4	8.665 e-4	165
Benign infantile epilepsy	self-limited familial neonatal epilepsy	1	1	KCNQ3 (2)	0.14286	1.00000	3.89 7e-4	8.665 e-4	165
Benign mesial temporal lobe epilepsy	Periventricular heterotopia	1	1	CPA6 (2)	0.16667	1.00000	3.24 7e-4	7.709 e-4	259
Cerebellar atrophy with seizures and variable developmental delay	generalized epilepsy-paroxysmal dyskinesia syndrome	1	1	KCNMA1 (5)	0.16667	1.00000	3.24 7e-4	7.709 e-4	58
Frontal lobe epilepsy	Intracranial hypertension	1	1	SLC4A10 (2)	0.16667	1.00000	3.24 7e-4	7.709 e-4	273
Epilepsy with myoclonic absence	Intraductal noninfiltrating carcinoma	1	1	SLC2A1 (3)	0.16667	1.00000	3.24 7e-4	7.709 e-4	124
Periventricular heterotopia	X-linked spasticity-intellectual disability-epilepsy syndrome	1	1	ARX (3)	0.16667	1.00000	3.24 7e-4	7.709 e-4	259
Deafness with congenital onychodystrophy	Infantile myoclonic epilepsy	1	0	TBC1D24 (1)	0.25000	0.50000	2.59 8e-4	6.509 e-4	90
Doors syndrome	Infantile myoclonic epilepsy	1	1	TBC1D24 (4)	0.25000	0.50000	2.59 8e-4	6.509 e-4	90
Infantile myoclonic epilepsy	Periodic paralysis	1	0	TBC1D24 (1)	0.25000	0.50000	2.59 8e-4	6.509 e-4	90
Benign neonatal epilepsy	fetal akinesia, respiratory insufficiency, microcephaly, polymicrogyria, and dysmorphic facies	1	1	ATP1A2 (2)	0.20000	1.00000	2.59 8e-4	6.509 e-4	
Benign neonatal epilepsy	hemiplegic migraine-developmental and epileptic encephalopathy spectrum	1	1	ATP1A2 (2)	0.20000	1.00000	2.59 8e-4	6.509 e-4	
Benign neonatal epilepsy	neonatal-onset developmental and epileptic encephalopathy	1	1	KCNQ2 (4)	0.20000	1.00000	2.59 8e-4	6.509 e-4	165
Epilepsy with auditory features	Sacroiliac arthritis	1	1	RELN (3)	0.20000	1.00000	2.59 8e-4	6.509 e-4	
Epilepsy with auditory features	Sacroiliac joint synovitis	1	1	RELN (3)	0.20000	1.00000	2.59 8e-4	6.509 e-4	

Disease A	Disease B	Share d Genes	Corroborate d Shared Genes	Shared Gene Names	Similari ty Score	Overlap Coefficie nt	P- valu e	FDR Q- value	Shared Cluster
Epilepsy with myoclonic absence	Paroxysmal dystonic choreoathetosis	1	1	SLC2A1 (2)	0.20000	1.00000	2.59 8e-4	6.509 e-4	
generalized epilepsy-paroxysmal dyskinesia syndrome	Paroxysmal nonkinesigenic dyskinesia	1	1	KCNMA1 (3)	0.20000	1.00000	2.59 8e-4	6.509 e-4	58
Dysgenesis of corpus callosum	Juvenile myoclonic epilepsy	1	1	CILK1 (2)	0.20000	1.00000	2.59 8e-4	6.509 e-4	62
Lateral temporal lobe epilepsy	Sacroiliac arthritis	1	0	RELN (1)	0.20000	1.00000	2.59 8e-4	6.509 e-4	
Lateral temporal lobe epilepsy	Sacroiliac joint synovitis	1	0	RELN (1)	0.20000	1.00000	2.59 8e-4	6.509 e-4	
Benign neonatal epilepsy	neonatal encephalopathy with non-epileptic myoclonus	1	1	KCNQ2 (4)	0.20000	1.00000	2.59 8e-4	6.509 e-4	165
Benign neonatal epilepsy	self-limited familial neonatal epilepsy	1	1	KCNQ3 (3)	0.20000	1.00000	2.59 8e-4	6.509 e-4	165
Amyloid neuropathy	Partial epilepsy with variable foci	1	1	APP (2)	0.25000	1.00000	1.94 8e-4	5.354 e-4	116
Arachnoid cysts	X-linked spasticity-intellectual disability-epilepsy syndrome	1	1	ARX (3)	0.25000	1.00000	1.94 8e-4	5.354 e-4	259
CBL-related disorder	Early onset vitamin b6 dependent epilepsy	1	1	CBL (2)	0.25000	1.00000	1.94 8e-4	5.354 e-4	
Congenital hypotonia, epilepsy, developmental delay, and digital anomalies	X-linked hydrocephalus syndrome	1	1	ATN1 (4)	0.25000	1.00000	1.94 8e-4	5.354 e-4	
Digitrenocerebral syndrome	Focal epilepsy-intellectual disability-cerebro-cerebellar malformation	1	1	TBC1D24 (2)	0.25000	1.00000	1.94 8e-4	5.354 e-4	90
Amish infantile epilepsy syndrome	spinocerebellar ataxia type 2	1	1	ATXN2 (2)	0.33333	1.00000	1.29 9e-4	3.931 e-4	
Amish infantile epilepsy syndrome	Salt and pepper developmental regression syndrome	1	1	ST3GAL5 (3)	0.33333	1.00000	1.29 9e-4	3.931 e-4	
Amish infantile epilepsy syndrome	GM3 synthase deficiency	1	1	ST3GAL5 (3)	0.33333	1.00000	1.29 9e-4	3.931 e-4	
Childhood-onset glut1 deficiency syndrome 2	Epilepsy with myoclonic absence	1	1	SLC2A1 (4)	0.33333	1.00000	1.29 9e-4	3.931 e-4	
Congenital nervous system disorder	neurodevelopmental disorder with hypotonia, epilepsy, and absent speech	1	1	UNC13A (2)	0.33333	1.00000	1.29 9e-4	3.931 e-4	
Continuous spike and wave during slow wave sleep syndrome	Focal epilepsy with speech disorder and impaired intellectual development	1	1	GRIN2A (3)	0.33333	1.00000	1.29 9e-4	3.931 e-4	365
Cryohydrocytosis	Epilepsy with myoclonic absence	1	1	SLC2A1 (3)	0.33333	1.00000	1.29 9e-4	3.931 e-4	124
Deafness with congenital onychodystrophy	Focal epilepsy-intellectual disability-cerebro-cerebellar malformation	1	1	TBC1D24 (2)	0.33333	1.00000	1.29 9e-4	3.931 e-4	90

Disease A	Disease B	Share d Genes	Corroborate d Shared Genes	Shared Gene Names	Similarity Score	Overlap Coefficient	P-value	FDR Q-value	Shared Cluster
Deafness, onychodystrophy, osteodystrophy, impaired intellectual development, and seizures syndrome	Infantile myoclonic epilepsy	1	1	TBC1D24 (2)	0.33333	1.00000	1.299e-4	3.931e-4	90
Doors syndrome	Focal epilepsy-intellectual disability-cerebro-cerebellar malformation	1	1	TBC1D24 (4)	0.33333	1.00000	1.299e-4	3.931e-4	90
Focal epilepsy-intellectual disability-cerebro-cerebellar malformation	Infantile myoclonic epilepsy	1	1	TBC1D24 (2)	0.33333	1.00000	1.299e-4	3.931e-4	90
Focal epilepsy-intellectual disability-cerebro-cerebellar malformation	Periodic paralysis	1	1	TBC1D24 (2)	0.33333	1.00000	1.299e-4	3.931e-4	90
Lissencephaly, x-linked	X-linked spasticity-intellectual disability-epilepsy syndrome	1	1	ARX (5)	0.33333	1.00000	1.299e-4	3.931e-4	259
Down syndrome	Tonic-clonic epilepsy	2	1	NTF3 (2), SNAP25 (1)	0.06667	0.16667	9.451e-5	3.360e-4	
Ataxia	Childhood absence epilepsy	2	2	GABRA1 (2), SLC2A1 (3)	0.06667	0.20000	7.920e-5	2.831e-4	47
Body weight	Tonic-clonic epilepsy	2	2	BDNF (2), POMC (2)	0.07407	0.16667	6.641e-5	2.383e-4	
Abeta amyloidosis	Partial epilepsy with variable foci	1	1	APP (2)	0.50000	1.00000	6.494e-5	2.331e-4	116
AFG3L2-related optic atrophy and/or spastic ataxia spectrum	Early-onset spastic ataxia-myoclonic epilepsy-neuropathy syndrome	1	1	AFG3L2 (2)	0.50000	1.00000	6.494e-5	2.331e-4	
Amyloid angiopathy	Partial epilepsy with variable foci	1	1	APP (2)	0.50000	1.00000	6.494e-5	2.331e-4	116
Atypical absence epilepsy	Minor epilepsy	1	0	NPY (1)	0.50000	1.00000	6.494e-5	2.331e-4	
Atypical absence epilepsy	Nasal obstruction	1	1	NPY (2)	0.50000	1.00000	6.494e-5	2.331e-4	
Autism-epilepsy syndrome	Branched-chain keto acid dehydrogenase kinase deficiency	1	1	BCKDK (6)	0.50000	1.00000	6.494e-5	2.331e-4	
cerebral amyloid angiopathy, app-related	Partial epilepsy with variable foci	1	1	APP (2)	0.50000	1.00000	6.494e-5	2.331e-4	116
Chromosome 17q23.1-q23.2 deletion syndrome	Epilepsy with myoclonic absence	1	1	SLC2A1 (2)	0.50000	1.00000	6.494e-5	2.331e-4	124
Congenital hypotonia, epilepsy, developmental delay, and digital anomalies	Dentatorubral pallidoluysian atrophy	1	1	ATN1 (6)	0.50000	1.00000	6.494e-5	2.331e-4	
Continuous spike and wave during sleep syndrome	Focal epilepsy with speech disorder and impaired intellectual development	1	1	GRIN2A (3)	0.50000	1.00000	6.494e-5	2.331e-4	365
Corpus callosum agenesis with abnormal genitalia	X-linked spasticity-intellectual disability-epilepsy syndrome	1	1	ARX (6)	0.50000	1.00000	6.494e-5	2.331e-4	259
Deafness, onychodystrophy, osteodystrophy, impaired intellectual development, and seizures syndrome	Focal epilepsy-intellectual disability-cerebro-cerebellar malformation	1	1	TBC1D24 (3)	0.50000	1.00000	6.494e-5	2.331e-4	90

Disease A	Disease B	Share d Genes	Corroborate d Shared Genes	Shared Gene Names	Similari ty Score	Overlap Coefficient	P- valu e	FDR Q- value	Shared Cluster
Epilepsy with myoclonic absence	GLUT1 deficiency syndrome	1	1	SLC2A1 (3)	0.50000	1.00000	6.49 4e-5	2.331 e-4	124
Eye manifestations	Partial epilepsy with variable foci	1	1	APP (2)	0.50000	1.00000	6.49 4e-5	2.331 e-4	116
Lafora body disease	Progressive myoclonic epilepsy with intracellular inclusions	1	1	PRDM8 (4)	0.50000	1.00000	6.49 4e-5	2.331 e-4	
Minor epilepsy	Nasal obstruction	1	1	NPY (2)	0.50000	1.00000	6.49 4e-5	2.331 e-4	
neurodevelopmental disorder with hypotonia, epilepsy, and absent speech	neurodevelopmental disorder with speech delay, movement abnormalities, and seizures	1	0	UNC13A (1)	0.50000	1.00000	6.49 4e-5	2.331 e-4	
neurodevelopmental disorder with microcephaly, impaired language, and gait abnormalities	neurodevelopmental disorder with microcephaly, impaired language, epilepsy, and gait abnormalities	1	0	NARS1 (1)	0.50000	1.00000	6.49 4e-5	2.331 e-4	
X-linked epilepsy with learning disability and behavior disorder syndrome	X-linked epilepsy with variable learning disabilities and behavior disorders	1	1	SYN1 (4)	0.50000	1.00000	6.49 4e-5	2.331 e-4	
X-linked epilepsy with learning disability and behavior disorder syndrome	X-linked epilepsy-learning disabilities-behavior disorders syndrome	1	1	SYN1 (2)	0.50000	1.00000	6.49 4e-5	2.331 e-4	
X-linked epilepsy with variable learning disabilities and behavior disorders	X-linked epilepsy-learning disabilities-behavior disorders syndrome	1	1	SYN1 (5)	0.50000	1.00000	6.49 4e-5	2.331 e-4	
X-linked lissencephaly	X-linked spasticity-intellectual disability-epilepsy syndrome	1	1	ARX (5)	0.50000	1.00000	6.49 4e-5	2.331 e-4	259
Cystitis	Tonic-clonic epilepsy	2	2	NGF (2), POMC (2)	0.07692	0.16667	5.81 3e-5	2.331 e-4	
Bladder exstrophy	progressive myoclonus epilepsy	2	2	GOSR2 (2), NUS1 (2)	0.06897	0.22222	6.34 1e-5	2.331 e-4	
Absence epilepsy	Ataxia	2	0	CACNA1A (1), CACNA2D2 (1)	0.07407	0.28571	3.70 5e-5	1.696 e-4	47
Benign infantile epilepsy	Myoclonic epilepsy	2	2	CHRNA2 (2), KCNQ3 (3)	0.06897	0.33333	3.47 9e-5	1.602 e-4	
Childhood absence epilepsy	Hepatic encephalopathy	2	2	GABRG2 (3), GABRA1 (3)	0.08696	0.20000	3.44 0e-5	1.585 e-4	
Childhood absence epilepsy	Lennox-gastaut syndrome	2	2	GABRG2 (2), GABRB3 (4)	0.09524	0.20000	2.49 7e-5	1.166 e-4	47
Childhood absence epilepsy	Idiopathic generalized epilepsy	2	2	GABRA1 (3), SLC2A1 (4)	0.09524	0.20000	2.49 7e-5	1.166 e-4	47
Absence epilepsy	Lennox-gastaut syndrome	2	2	CACNA1A (3), GABRB3 (3)	0.11111	0.28571	1.16 7e-5	5.715 e-5	47
Epilepsy with myoclonic atonic seizures	Lennox-gastaut syndrome	2	2	CHD2 (3), SCN1A (3)	0.11111	0.28571	1.16 7e-5	5.715 e-5	
Generalized epilepsy with febrile seizures plus	Hemiplegic migraine	2	2	SCN1A (8), PRRT2 (2)	0.10000	0.40000	1.01 0e-5	4.998 e-5	

Disease A	Disease B	Share d Genes	Corroborate d Shared Genes	Shared Gene Names	Similarity Score	Overlap Coefficient	P-value	FDR Q-value	Shared Cluster
Dravet syndrome	Epilepsy of infancy with migrating focal seizures	2	2	SCN1A (4), SCN2A (2)	0.12500	0.25000	8.48e-6	4.226e-5	
Skin ulcer	Tonic-clonic epilepsy	2	2	NGF (2), FGF2 (2)	0.11765	0.33333	8.337e-6	4.163e-5	330
Cerebellar hypoplasia/atrophy, epilepsy, and global developmental delay	Congenital brain malformation	3	0	CASK (1), SEPSECS (1), KIAA0586 (1)	0.05882	0.17647	7.803e-6	3.928e-5	110
Cerebellar hypoplasia/atrophy, epilepsy, and global developmental delay	Congenital hypoplasia of part of brain	3	0	CASK (1), SEPSECS (1), KIAA0586 (1)	0.05882	0.17647	7.803e-6	3.928e-5	110
Hemangiosarcoma	Temporal lobe epilepsy	3	3	VEGFA (2), TEK (2), KDR (2)	0.06122	0.16667	7.159e-6	3.616e-5	
Generalized epilepsy with febrile seizures plus	Temporal lobe epilepsy	3	2	ANO4 (1), CPA6 (4), RELN (2)	0.06383	0.18750	4.928e-6	2.563e-5	
Benign infantile epilepsy	Epilepsy of infancy with migrating focal seizures	2	2	KCNQ2 (3), SCN2A (3)	0.14286	0.33333	4.550e-6	2.381e-5	
Benign infantile epilepsy	Malignant migrating partial seizures of infancy	2	2	KCNQ2 (3), SCN2A (2)	0.14286	0.33333	4.550e-6	2.381e-5	
Generalized epilepsy	Myoclonic epilepsy	4	3	GABRA2 (1), JRK (3), SCN1A (3), CACNB4 (3)	0.04651	0.16667	2.884e-6	1.560e-5	
Mitochondrial myopathy	Myoclonic epilepsy with ragged red fibers	2	2	IL1A (2), IL1B (2)	0.11765	0.66667	2.656e-6	1.444e-5	32
Myoclonic epilepsy with ragged red fibers	Progressive external ophthalmoplegia	2	2	IL1A (2), IL1B (2)	0.13333	0.66667	1.973e-6	1.095e-5	32
Benign neonatal epilepsy	Epilepsy of infancy with migrating focal seizures	2	2	KCNQ2 (4), SCN2A (3)	0.16667	0.50000	1.821e-6	1.021e-5	
Benign neonatal epilepsy	Malignant migrating partial seizures of infancy	2	2	KCNQ2 (3), SCN2A (2)	0.16667	0.50000	1.821e-6	1.021e-5	
progressive myoclonus epilepsy	Unverricht-lundborg syndrome	2	2	SCARB2 (3), PRICKLE1 (3)	0.18182	0.66667	9.108e-7	5.367e-6	329
Cerebellar hypoplasia/atrophy, epilepsy, and global developmental delay	Pontocerebellar hypoplasia	4	4	ATAD3A (4), TSEN54 (7), SEPSECS (5), RARS2 (6)	0.06250	0.12903	7.568e-7	4.537e-6	
Adult myoclonic epilepsy	Benign adult familial myoclonic epilepsy	2	2	ADRA2B (2), SAMD12 (2)	0.20000	0.66667	7.084e-7	4.269e-6	357
Early onset vitamin b6 dependent epilepsy	Pyridoxine dependent epilepsy	2	2	ALDH7A1 (4), PLPBP (4)	0.20000	0.66667	7.084e-7	4.269e-6	
Cerebellar hypoplasia/atrophy, epilepsy, and global developmental delay	Macrogyria	4	0	CASK (1), SEPSECS (1), KIAA0586 (1), TUBA1A (1)	0.06452	0.13793	5.732e-7	3.501e-6	110
Ataxia	Idiopathic generalized epilepsy	3	3	GABRA1 (3), CACNB4 (2), SLC2A1 (2)	0.09677	0.25000	4.772e-7	2.974e-6	47
Benign adult familial myoclonic epilepsy	Benign myoclonic epilepsy	2	2	ADRA2B (2), SAMD12 (3)	0.25000	0.66667	3.795e-7	2.393e-6	357
Familial temporal lobe epilepsy	Temporal lobe epilepsy	3	3	CPA6 (5), RELN (4), GAL (4)	0.07895	0.42857	3.121e-7	2.003e-6	

Disease A	Disease B	Share d Genes	Corroborate d Shared Genes	Shared Gene Names	Similarity Score	Overlap Coefficient	P-value	FDR Q-value	Shared Cluster
Benign neonatal-infantile seizures	Epilepsy of infancy with migrating focal seizures	2	2	KCNQ2 (3), SCN2A (3)	0.20000	1.00000	3.037e-7	1.951e-6	
familial sleep-related hypermotor epilepsy	Frontal lobe epilepsy	2	2	CHRNA4 (3), CHRNA4 (3)	0.28571	0.66667	2.530e-7	1.653e-6	273
Generalized epilepsy with febrile seizures plus	Lennox-gastaut syndrome	3	3	GABRG2 (3), SCN1A (8), SCN2A (2)	0.11538	0.25000	2.014e-7	1.338e-6	47
Adult myoclonic epilepsy	Myoclonic epilepsy	3	3	RAPGEF2 (3), TNRC6A (3), SAMD12 (3)	0.10000	0.37500	1.854e-7	1.234e-6	
Familial adult myoclonic epilepsy	Myoclonic epilepsy	3	3	RAPGEF2 (5), TNRC6A (5), SAMD12 (5)	0.10000	0.37500	1.854e-7	1.234e-6	
Familial focal epilepsy with variable foci	Progressive myoclonic epilepsy	3	3	DEPDC5 (5), NPRL2 (5), NPRL3 (5)	0.10000	0.37500	1.854e-7	1.234e-6	
Dravet syndrome	Myoclonic epilepsy	3	3	GABRA1 (2), SCN1A (6), STXBP1 (3)	0.10000	0.37500	1.854e-7	1.234e-6	47
Generalized epilepsy	Lennox-gastaut syndrome	4	3	CACNA1A (2), CUX2 (3), SCN1A (4), POLG (1)	0.05405	0.33333	1.395e-7	9.582e-7	
Benign infantile epilepsy	Benign neonatal-infantile seizures	2	2	KCNQ2 (3), SCN2A (2)	0.28571	1.00000	1.265e-7	8.712e-7	165
Cerebellar hypoplasia/atrophy, epilepsy, and global developmental delay	Lissencephaly	5	2	MACF1 (5), CASK (1), SEPSECS (1), KIAA0586 (1), TUBA1A (5)	0.06098	0.13889	1.027e-7	7.187e-7	110
Benign neonatal epilepsy	Benign neonatal-infantile seizures	2	2	KCNQ2 (3), SCN2A (3)	0.40000	1.00000	5.062e-8	3.708e-7	165
Rolandic epilepsy	Unverricht-lundborg syndrome	3	3	SCARB2 (2), PRICKLE1 (2), CSTB (5)	0.06250	1.00000	2.665e-8	2.025e-7	
Partial epilepsy	West syndrome	5	1	SCN8A (1), CDKL5 (1), SCN1A (2), SCN2A (1), SPTAN1 (1)	0.07143	0.16667	2.036e-8	1.593e-7	
Focal epilepsy	Progressive myoclonic epilepsy	3	3	DEPDC5 (3), NPRL2 (4), NPRL3 (4)	0.11538	0.75000	1.329e-8	1.056e-7	
Childhood absence epilepsy	Dravet syndrome	3	3	GABRG2 (2), GABRA1 (2), SCN1B (3)	0.18750	0.37500	1.103e-8	8.821e-8	47
Microcephaly, epilepsy, and diabetes syndrome	Primary microcephaly-epilepsy-permanent neonatal diabetes syndrome	2	2	IER3IP1 (7), YIPF5 (4)	0.66667	1.00000	8.436e-9	6.818e-8	
Status epilepticus	Temporal lobe epilepsy	6	6	VEGFA (2), CNR1 (2), GRM1 (2), GRM5 (2), SLC12A5 (2), AQP4 (2)	0.06122	0.18182	7.131e-9	5.946e-8	
Absence epilepsy	Childhood absence epilepsy	3	3	CACNA1H (5), GABRB3 (5), JRK (2)	0.20000	0.42857	6.894e-9	5.751e-8	47
Partial epilepsy	Rolandic epilepsy	6	3	GRIN2A (3), SCN1A (2), SCN2A (1), DEPDC5 (1), KCNT1 (2), SPTAN1 (1)	0.06977	0.13636	3.757e-9	3.199e-8	
Progressive myoclonic epilepsy	Unverricht-lundborg syndrome	3	3	SCARB2 (6), PRICKLE1 (7), CSTB (6)	0.12000	1.00000	3.327e-9	2.846e-8	329
Epilepsy of infancy with migrating focal seizures	genetic developmental and epileptic encephalopathy	4	4	SCN1A (2), SLC12A5 (3), PLCB1 (2), SLC25A22 (2)	0.09524	0.44444	3.144e-9	2.700e-8	

Disease A	Disease B	Share d Genes	Corroborate d Shared Genes	Shared Gene Names	Similari ty Score	Overlap Coefficie nt	P- valu e	FDR Q- value	Shared Cluster
Idiopathic generalized epilepsy	Myoclonic epilepsy	4	4	GABRD (5), GABRA1 (4), CACNB4 (4), CLCN2 (5)	0.12121	0.33333	2.228e-9	1.941e-8	47
Melas syndrome	Myoclonic epilepsy with ragged red fibers	3	3	IL1A (2), IL1B (2), ND5 (2)	0.15789	1.00000	1.341e-9	1.200e-8	32
Hyperalgesia	Temporal lobe epilepsy	7	7	PDYN (2), BDKRB2 (2), CNR1 (2), TRPV1 (2), SLC12A5 (2), GAL (3), BDKRB1 (2)	0.06034	0.21212	6.411e-10	5.906e-9	
Familial focal epilepsy with variable foci	Focal epilepsy	3	3	DEPDC5 (5), NPRL2 (6), NPRL3 (5)	0.30000	0.75000	3.681e-10	3.478e-9	
Epilepsy with auditory features	Familial temporal lobe epilepsy	3	3	RELN (5), LGI1 (7), MICAL1 (5)	0.33333	0.75000	2.301e-10	2.206e-9	
Familial temporal lobe epilepsy	Lateral temporal lobe epilepsy	3	3	RELN (4), LGI1 (5), GAL (3)	0.33333	0.75000	2.301e-10	2.206e-9	
familial sleep-related hypermotor epilepsy	Nocturnal frontal lobe epilepsy	3	3	CHRNA2 (6), CHRN2 (6), CHRNA4 (6)	0.30000	1.00000	1.381e-10	1.352e-9	273
Benign infantile epilepsy	Benign neonatal epilepsy	3	3	KCNQ2 (4), SCN2A (3), KCNQ3 (3)	0.37500	0.75000	1.315e-10	1.292e-9	165
Developmental and epileptic encephalopathy	Generalized epilepsy	12	11	CACNA1A (5), CUX2 (6), GABRA2 (6), RBFOX1 (2), SIK1 (6), SZT2 (7), SCN1A (8), CACNA2D2 (2), GLS (4), GABRG1 (2), SLC38A3 (6), STX1B (1)	0.04380	0.18462	1.109e-10	1.098e-9	
Benign adult familial myoclonic epilepsy	Familial adult myoclonic epilepsy	3	3	ADRA2B (2), SAMD12 (5), STARD7 (5)	0.33333	1.00000	9.205e-11	9.154e-10	357
Progressive myoclonic epilepsy	Rolandic epilepsy	6	6	SCARB2 (6), PRICKLE1 (6), PRICKLE2 (2), TBC1D24 (5), DEPDC5 (2), CSTB (2)	0.09091	0.25000	7.500e-11	7.559e-10	
Focal epilepsy	Partial epilepsy	4	4	DEPDC5 (2), CLASP1 (2), NPRL2 (3), NPRL3 (3)	0.08889	1.00000	5.798e-11	5.901e-10	
Febrile convulsion	Rolandic epilepsy	6	2	CPA6 (5), GABRG2 (5), SCN1A (1), SCN1B (1), SCN2A (1), SCN9A (1)	0.09375	0.27273	4.176e-11	4.301e-10	47
Epilepsy of infancy with migrating focal seizures	Rolandic epilepsy	5	5	SCN1A (2), SCN2A (2), TBC1D24 (5), KCNT1 (2), PLCB1 (2)	0.09615	0.55556	2.657e-11	2.794e-10	
Malignant migrating partial seizures of infancy	Rolandic epilepsy	5	3	SCN1A (2), SCN2A (1), TBC1D24 (5), KCNT1 (1), PLCB1 (2)	0.09615	0.55556	2.657e-11	2.794e-10	
Epilepsy with auditory features	Lateral temporal lobe epilepsy	3	3	RELN (3), DEPDC5 (2), LGI1 (4)	0.50000	0.75000	2.630e-11	2.771e-10	

Disease A	Disease B	Share d Genes	Corroborate d Shared Genes	Shared Gene Names	Similarity Score	Overlap Coefficient	P-value	FDR Q-value	Shared Cluster
Epilepsy of infancy with migrating focal seizures	West syndrome	5	5	KCNQ2 (2), SCN1A (2), SCN2A (2), PLCB1 (2), PIGA (2)	0.14286	0.55556	2.477e-12	2.849e-11	
Frontal lobe epilepsy	Nocturnal frontal lobe epilepsy	4	4	CHRNA2 (5), CRH (2), CHRNA4 (5), KCNT1 (5)	0.36364	0.80000	2.690e-13	3.416e-12	273
genetic developmental and epileptic encephalopathy	Rolandic epilepsy	8	8	WWOX (2), SZT2 (2), SCN1A (2), SCN1B (2), KCNQ3 (2), CSTB (2), PLCB1 (2), SPTAN1 (2)	0.10526	0.22222	1.142e-13	1.469e-12	
Dravet syndrome	Generalized epilepsy with febrile seizures plus	5	5	GABRG2 (4), SCN1A (8), SCN1B (7), SCN2A (2), SCN9A (2)	0.25000	0.62500	3.387e-14	4.542e-13	47
Generalized epilepsy with febrile seizures plus	Rolandic epilepsy	7	6	CPA6 (2), RELN (1), GABRG2 (3), SCN1A (8), SCN1B (7), SCN2A (2), SCN9A (2)	0.12281	0.43750	1.733e-14	2.378e-13	47
Dravet syndrome	Rolandic epilepsy	6	6	GABRG2 (3), SCN1A (5), SCN1B (3), SCN2A (2), PCDH19 (3), SCN9A (2)	0.12000	0.75000	1.618e-14	2.228e-13	47
Benign myoclonic epilepsy	Familial adult myoclonic epilepsy	5	5	ADRA2B (2), CNTN2 (3), MARCHF6 (4), SAMD12 (4), YEATS2 (4)	0.50000	0.83333	4.660e-17	7.631e-16	357
Adult myoclonic epilepsy	Benign myoclonic epilepsy	6	6	CTNND2 (3), ADRA2B (3), CNTN2 (3), MARCHF6 (3), SAMD12 (3), YEATS2 (3)	0.66667	1.00000	1.514e-21	3.066e-20	357
Febrile convulsion	Generalized epilepsy with febrile seizures plus	9	9	CPA6 (6), HCN1 (7), GABRG2 (6), ADGRV1 (6), SCN1A (8), SCN1B (7), SCN2A (2), SCN9A (2), STX1B (7)	0.30000	0.56250	4.231e-23	9.260e-22	47
Adult myoclonic epilepsy	Familial adult myoclonic epilepsy	7	7	RAPGEF2 (5), TNRC6A (5), ADRA2B (2), CNTN2 (3), MARCHF6 (5), SAMD12 (5), YEATS2 (4)	0.70000	0.87500	1.574e-24	3.731e-23	357
Progressive myoclonic epilepsy	progressive myoclonus epilepsy	9	9	SCARB2 (5), PRICKLE1 (5), SEMA6B (2), GOSR2 (6), NUS1 (2), SERPINI1 (2), KCTD7 (6), KCNC1 (5), CERS1 (7)	0.36000	1.00000	9.773e-27	2.635e-25	329
Epilepsy of infancy with migrating focal seizures	Malignant migrating partial seizures of infancy	9	9	KCNQ2 (3), SCN1A (3), SCN2A (2), SLC12A5 (3), TBC1D24 (2), KCNT1 (2), PLCB1 (3), PIGA (3), SLC25A22 (3)	0.90000	1.00000	7.475e-33	2.513e-31	
Epilepsy	Seizures	37	34	FOXG1 (2), CHRNA7 (3), ATP1A3 (1), CPA6 (2), HCN1 (2), HTR1A (2), KCNQ2 (5), RBFOX1 (3), SCN8A (5), SLC6A1 (2), ACHE (2), BCHE (2)	0.10947	0.26241	8.385e-36	3.128e-34	
Generalized epilepsy	Partial epilepsy	21	1	CUX2 (1), GABRA2 (1), GRM3 (1), OGA (1), PCDH7 (1), RPH3A (1), TRIM36 (1), ALDH2 (1), VRK2 (1), GBF1 (1), SCN1A (3), TNKS (1)	0.23596	0.47727	6.876e-40	2.868e-38	
Epilepsy	Intellectual developmental disorder	81	63	FOXG1 (2), UBE3A (2), CHRNA7 (2), ANKRD11 (2), HNRNPU (2), WWOX (1), ARID1B (2), AUTS2 (4), CHD2 (2), CNTNAP2 (2), CPA6 (2), GRIA1 (5)	0.08420	0.34764	3.695e-45	1.748e-43	

Disease A	Disease B	Share d Genes	Corroborate d Shared Genes	Shared Gene Names	Similari ty Score	Overlap Coefficie nt	P- valu e	FDR Q- value	Shared Cluster
Epilepsy	Partial epilepsy	30	7	CACNA1H (1), CUX2 (1), GABRA2 (1), GRM3 (1), OGA (1), PCDH7 (1), PTPRD (1), RPH3A (1), SCN8A (2), TRIM36 (1), ALDH2 (1), CDKL5 (2)	0.12097	0.68182	3.49 9e- 45	1.659 e-43	
Developmental and epileptic encephalopathy	Epilepsy	57	54	FOXG1 (3), UBE3A (2), GABRD (3), HNRNPU (4), WWOX (6), ATP1A2 (6), ATP1A3 (5), CELSR1 (2), CHD2 (5), CNTNAP2 (3), CUX2 (6), GABRA2 (6)	0.14358	0.25909	4.91 7e- 55	2.781 e-53	
Epilepsy	Generalized epilepsy	44	7	CHRNA7 (3), AUTS2 (3), CHRM3 (1), CUX2 (1), GABRA2 (1), GRM3 (1), HTR1A (1), OGA (1), PCDH7 (1), RBFOX1 (3), RPH3A (1), TRIM36 (1)	0.17255	0.67692	5.37 4e- 66	3.667 e-64	