

This file contains the degree, closeness, betweenness, eigenvector, and PageRank centrality scores for the top five distinct nodes by each of these metrics in the GBPN (Table 1) and the ten most significant mc\_GBPN by highest modularity score (Tables 2-11). Each node is given a label describing the diseases, genes, proteins, treatments, etc. that it contains.

**Table 1. Most influential nodes by centrality scores in the GBPN.**

Top Nodes	Top Node IDs	Degree	Closeness	Betweenness	PageRank	Eigenvector
DEGREE CENTRALITY TOP NODES						
<b>Diseases/Conditions:</b> X-linked Adrenoleukodystrophy; Diffuse Cerebral Sclerosis of Schilder; Peroxisomal Disorders; Leucodistrofia; Adrenocortical Hypofunction; ACYL-COA Oxidase Deficiency; Encephalitis Periaxialis Concentrica; Canavan Disease  <b>Genes:</b> ABCD1 WT Allele; ABC42; AMN; ACOX1; ECK2921/JW2892/FBA/FDA/FB AA (all synonyms); ECK1408/JW1412 (synonyms)  <b>Proteins:</b> ADLP  <b>Compounds:</b> VK-0214 (drug to treat X-ALD); Propanoic Acid; 2,2-DIMETHYL-,1,1'-[[[4-[[4-HYDROXY-3-(PHENYLMETHYL)PHENYL]METHYL]-3,5-DIMETHYLPHENOXY]METHYL]PHOSPHINYLIDENE]BIS(OXYMETHYLENE)] ESTER; Ethylenediamine; Generation 4 Hydroxyl-Terminated Polyamidoamine Dendrimer	7745	10613	-	-	-	-

Containing an Ethylene Diamene (EDA) Core, Amidoamine Repeat Units, and 64 Hydroxyl End Groups (SMP:00516)						
<b>Diseases/Conditions:</b> Involuntary and Abnormal Movements (Ataxias; Choreas; Dyskinesias; Dyssynergia; Dystonias; Ballismus; Hemiballism); Torticollis; Rubral Tremor; Brain Degeneration; Central Nervous System Degenerative Disorder; Cerebellar Dysmetria; Segawa Syndrome  <b>Genes:</b> SETX/SCAR1/AOA2/KIAA0625/ALS4/BA479K20.2 (synonyms); WASF1/WAVE1/WASP Family Protein Member 1 (synonyms); GCH1	11196	7939	-	-	-	-
<b>Diseases/Conditions:</b> Parkinsonism; Perry Syndrome; Distal Hereditary Motor Neuropathy Type VIIb; Susceptibility to Amyotrophic Lateral Sclerosis (ALS)  <b>Gene:</b> FBXO7/FBX7/FBX (synonyms); DCTN1/P150(GLUED), DROSOPHILA, HOMOLOG OF  <b>Drug:</b> MPTP (causes permanent symptoms of Parkinson's Disease)	12833	7359	-	-	-	-
<b>Diseases/Conditions:</b> Ferritin-related Neurodegeneration; NBIA3	16872	4795	-	-	-	-

<b>Gene:</b> FTL						
<b>Diseases/Conditions:</b> Cadasil Syndrome; Carasil Syndrome; IMF2; Brain Small Vessel Disease; Retinal Arteriolar Tortuosity; Infantile Hemiparesis; Age-related Macular Degeneration; COL4A1-related Familial Vascular Leukoencephalopathy  <b>Genes:</b> NOTCH3; COL4A1; HTRA1/PRSS11/ARMD7/CARA SIL/L56/ORF480 (synonyms)  <b>Drugs/Compounds:</b> Cerebrolysin (Peptide Fraction Derived from Porcine Brain Protein); Palm Tocotrienol Complex	1748	4440	-	-	-	-
CLOSENESS CENTRALITY TOP NODES						
135 nodes in the GBPN have the highest possible closeness centrality score of 1. See the full list <a href="#">here</a> .						
BETWEENNESS CENTRALITY TOP NODES						
<b>Diseases/Conditions:</b> Involuntary and Abnormal Movements (Ataxias; Choreas; Dyskinesias; Dyssynergia; Dystonias; Ballismus; Hemiballism); Torticollis; Rubral Tremor; Brain Degeneration; Central Nervous System Degenerative Disorder; Cerebellar Dysmetria; Segawa Syndrome  <b>Genes:</b> SETX/SCAR1/AOA2/KIAA0625/ALS4/BA479K20.2 (synonyms); WASF1/WAVE1/WASP Family	11196	-	-	470306.932357	-	-

Protein Member 1 (synonyms); GCH1						
<b>Diseases/Conditions:</b> Amyotrophic Lateral Sclerosis (ALS); Juvenile Primary Lateral Sclerosis; Infantile-Onset Ascending Spastic Paralysis; Charcot Disease; Dementia with ALS; Anterior Horn Cell Disease; Motor Neuron Diseases; Acid-Labile Subunit Deficiency; Aran-Duchenne Muscular Atrophy; ALS-Polyglucosin Bodies  <b>Genes:</b> SOD1/ALS1/IPOA/STAH1/hSOD1/HEL-S-44/Homodimer (synonyms); ALS2/KIAA1563 (synonyms); IGFALS  <b>Proteins:</b> Ciliary Neurotrophic Factor; IGFBP  <b>Drugs/Compounds/Treatments</b> : Mescasermin Rinfabate; Orgotein for injection, ALS; Clenbuterol (Spiropent); S-[+]-Apomorphine; IPLEX; ETR019 (Superoxide Dismutase, Gliadin); Valine; Riluzole Oral Soluble Film (ROSF); Antilymphocyte Serum (Antilymphocyte Globulin); Tegoprunar (AT-1501); Toralizumab; Humanized Anti-CD40LG IGG1, Kappa Monoclonal Antibody with Heavy Chain C220S/C226S/C229S/P238S Substitutions to Attenuate Effector Function; Rocephin	6002	-	-	282123.70763 2	-	-

(Ceftriaxone Sodium); Isoleucine;  
Copaxone Protirelin Injection,  
GM-603 (Glatiramer Acetate);  
Ozanezumab;  
DIACETYL(N(4)-METHYLTHIOS  
EMICARBAZONATO) COPPER  
(II); Telbermin; Branched Chain  
Amino Acids; Anti-Nogo-A  
Monoclonal Antibody;  
Cannabidiol;  
DELTA-9-TETRAHYDROCANNA  
BINOL (THC); Pterostilbene;  
EPI-589; Threostat; Neurontin  
(Gabapentin); Mescamerin;  
Rilutek (Riluzole); Nicotinamide  
and Pterostilbene; Oxaloacetic  
Acid; L-Threonine; LSP-GR3  
(2'-O-METHYL  
PHOSPHOROTHIOATE  
5'-GCUAGGUUUACGGGACCU  
CU-3'); Smilagenin; Cogane;  
Teglutik; Olesoxime; Nuedexta  
(Dextromethorphan  
Hydrobromide/Quinidine Sulfate);  
Oxime; 4-CHOLEST-EN-3-ONE;  
Noscapine; Acthar Gel  
(Repository Corticotropin  
Injection); Oligopeptide  
Containing 6 Amino Acids;  
Levosimedan; Sarsasapogenin;  
Talampanel;  
HYDROCINNAMATE-[ORN-PRO  
-DCHA-TRP-ARG](CH3COO);  
DL-3-N-BUTYLPHTHALIDE;  
Cyclosporin (Mitogard);  
Arimoclomol; BIS-CHOLINE  
TETRATHIOMOLYBDATE;  
SODIUM CHLORITE; Tirasemtiv;  
Leucine; Ibudilast; Creatine;  
Creapure; SODIUM  
PHENYLBUTYRATE;  
TAUROURSODEOXYCHOLIC  
ACID DIHYDRATE; Filgrastim;

LACTOBACILLUS PLANTARUM;  
Edaravone; Dexpramipexole;  
Procysteine; Masitinib Mesylate;  
AEOL-10150; HER-902;  
TAUROURSODEOXYCHOLIC  
ACID DIHYDRATE; NI-204;  
AUTOLOGOUS ADIPOSE  
DERIVED MESENCHYMAL  
STROMAL CELLS;  
MONONUCLEAR ENRICHED  
FRACTION OF HUMAN  
UMBILICAL CORD BLOOD;  
ELECTROKINETICALLY  
ALTERED SALINE SOLUTION  
WITH AN ELEVATED  
DISSOLVED OXYGEN  
CONCENTRATION;  
Enzumestrocel;  
U-CORD-CELL(R); ANTISENSE  
OLIGONUCLEOTIDE  
INHIBITOR OF THE  
EXPRESSION OF  
SUPEROXIDE DISMUTASE 1  
GENE; ALLOGENEIC MOTOR  
NEURON PROGENITOR CELLS  
DERIVED FROM HUMAN  
EMBRYONIC STEM CELLS;  
DNA PLASMID VECTOR  
(PCK-HGFX7) EXPRESSING  
HUMAN HEPATOCYTE  
GROWTH FACTOR; NurOwn;  
Hsp70; HUTC; MESENCHYMAL  
STROMAL CELLS SECRETING  
NEUROTROPHIC FACTORS;  
CAPRINE HYPERIMMUNE  
SERUM AGAINST HIV LYSATE;  
NDX-Peptides; EX-VIVO  
EXPANDED AUTOLOGOUS  
BONE MARROW-DERIVED  
MESENCHYMAL STEM CELLS;  
RECOMBINANT HUMAN  
ANTIBODY DIRECTED  
AGAINST HUMAN MISFOLDED

SUPEROXIDE DISMUTASE 1; Phosphorothioate Oligonucleotide; AUTOLOGOUS OLFACTORY NEURAL PROGENITORS						
<b>Diseases/Conditions:</b> Epilepsies; Seizures; Action Myoclonus Renal Failure Syndrome; Dentatorubral-Pallidoluysian Atrophies; Atypical Inclusion Body Disease; Biotin Responsive Encephalopathy; May White Syndrome  <b>Genes:</b> CSTB/STFB/CST6/PME/Cystatin B/Stefin B)/EPM1 (synonyms)	3282	-	-	197100.26484	-	-
Autosomal Dominant Inheritance	140310	-	-	177000.72963 2	-	-
<b>Diseases/Conditions:</b> X-linked Adrenoleukodystrophy; Diffuse Cerebral Sclerosis of Schilder; Peroxisomal Disorders; Leucodistrofia; Adrenocortical Hypofunction; ACYL-COA Oxidase Deficiency; Encephalitis Periaxialis Concentrica; Canavan Disease  <b>Genes:</b> ABCD1 WT Allele; ABC42; AMN; ACOX1; ECK2921/JW2892/FBA/FDA/FB AA (all synonyms); ECK1408/JW1412 (synonyms)  <b>Proteins:</b> ADLP  <b>Compounds:</b> VK-0214 (drug to treat X-ALD); Propanoic Acid; 2,2-DIMETHYL-,1,1'-[[[4-[[4-HY	7745	-	-	173646.71507 6	-	-

DROXY-3-(PHENYLMETHYL)PH ENYL]METHYL]-3,5-DIMETHYL PHENOXY]METHYL]PHOSPHIN YLIDENE]BIS(OXYMETHYLENE )] ESTER; Ethylenediamine; Generation 4 Hydroxyl-Terminated Polyamidoamine Dendrimer Containing an Ethylene Diamene (EDA) Core, Amidoamine Repate Units, and 64 Hydroxyl End Groups (SMP:00516)						
PAGERANK TOP NODES						
<b>Diseases/Conditions:</b> Amyotrophic Lateral Sclerosis (ALS); Juvenile Primary Lateral Sclerosis; Infantile-Onset Ascending Spastic Paralysis; Charcot Disease; Dementia with ALS; Anterior Horn Cell Disease; Motor Neuron Diseases; Acid-Labile Subunit Definiciency; Aran-Duchenne Muscular Atrophy; ALS-Polyglucosen Bodies  <b>Genes:</b> SOD1/ALS1/IPOA/STAHP/hSod 1/HEL-S-44/Homodimer (synonyms); ALS2/KIAA1563 (synonyms); IGFALS  <b>Proteins:</b> Ciliary Neurotrophic Factor; IGFBP  <b>Drugs/Compounds/Treatments</b> : Mescasermin Rinfabate; Orgotein for injection, ALS; Clenbuterol (Spiropent); S-[+]-Apomorphine; IPLEX; ETR019 (Superoxide Dismutase, Gliadin); Valine; Riluzole Oral	6002	-	-	-	0.002879	-



<p>Soluble Film (ROSF); Antilymphocyte Serum (Antilymphocyte Globulin); Tegoprubart (AT-1501); Toralizumab; Humanized Anti-CD40LG IGG1, Kappa Monoclonal Antibody with Heavy Chain C220S/C226S/C229S/P238S Substitutions to Attenuate Effector Function; Rocephin (Ceftriaxone Sodium); Isoleucine; Copaxone Protirelin Injection, GM-603 (Glatiramer Acetate); Ozanezumab; DIACETYL(N(4)-METHYLTHIOS EMICARBAZONATO) COPPER (II); Telbermin; Branched Chain Amino Acids; Anti-Nogo-A Monoclonal Antibody; Cannabidiol; DELTA-9-TETRAHYDROCANNA BINOL (THC); Pterostilbene; EPI-589; Threostat; Neurontin (Gabapentin); Mescamerin; Rilutek (Riluzole); Nicotinamide and Pterostilbene; Oxaloacetic Acid; L-Threonine; LSP-GR3 (2'-O-METHYL PHOSPHOROTHIOATE 5'-GCUAGGUUUACGGGACCU CU-3'); Smilagenin; Cogane; Teglutik; Olesoxime; Nuedexta (Dextromethorphan Hydrobromide/Quinidine Sulfate); Oxime; 4-CHOLEST-EN-3-ONE; Noscapine; Acthar Gel (Repository Corticotropin Injection); Oligopeptide Containing 6 Amino Acids; Levosimedan; Sarsasapogenin; Talampanel; HYDROCINNAMATE-[ORN-PRO</p>						
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<p>-DCHA-TRP-ARG](CH3COO); DL-3-N-BUTYLPHTHALIDE; Cyclosporin (Mitogard); Arimoclomol; BIS-CHOLINE TETRATHIOMOLYBDATE; SODIUM CHLORITE; Tirasemtiv; Leucine; Ibudilast; Creatine; Creapure; SODIUM PHENYLBUTYRATE; TAUROURSODEOXYCHOLIC ACID DIHYDRATE; Filgrastim; LACTOBACILLUS PLANTARUM; Edaravone; Dexpramipexole; Procysteine; Masitinib Mesylate; AEOL-10150; HER-902; TAUROURSODEOXYCHOLIC ACID DIHYDRATE; NI-204; AUTOLOGOUS ADIPOSE DERIVED MESENCHYMAL STROMAL CELLS; MONONUCLEAR ENRICHED FRACTION OF HUMAN UMBILICAL CORD BLOOD; ELECTROKINETICALLY ALTERED SALINE SOLUTION WITH AN ELEVATED DISSOLVED OXYGEN CONCENTRATION; Enzumestrocel; U-CORD-CELL(R); ANTISENSE OLIGONUCLEOTIDE INHIBITOR OF THE EXPRESSION OF SUPEROXIDE DISMUTASE 1 GENE; ALLOGENEIC MOTOR NEURON PROGENITOR CELLS DERIVED FROM HUMAN EMBRYONIC STEM CELLS; DNA PLASMID VECTOR (PCK-HGFX7) EXPRESSING HUMAN HEPATOCYTE GROWTH FACTOR; NurOwn; Hsp70; HUTC; MESENCHYMAL</p>						
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STROMAL CELLS SECRETING NEUROTROPHIC FACTORS; CAPRINE HYPERIMMUNE SERUM AGAINST HIV LYSATE; NDX-Peptides; EX-VIVO EXPANDED AUTOLOGOUS BONE MARROW-DERIVED MESENCHYMAL STEM CELLS; RECOMBINANT HUMAN ANTIBODY DIRECTED AGAINST HUMAN MISFOLDED SUPEROXIDE DISMUTASE 1; Phosphorothioate Oligonucleotide; AUTOLOGOUS OLFACTORY NEURAL PROGENITORS						
<b>Diseases/Conditions:</b> Involuntary and Abnormal Movements (Ataxias; Choreas; Dyskinesias; Dyssynergia; Dystonias; Ballismus; Hemiballism); Torticollis; Rubral Tremor; Brain Degeneration; Central Nervous System Degenerative Disorder; Cerebellar Dysmetria; Segawa Syndrome  <b>Genes:</b> SETX/SCAR1/AOA2/KIAA0625/ ALS4/BA479K20.2 (synonyms); WASF1/WAVE1/WASP Family Protein Member 1 (synonyms); GCH1	11196	-	-	-	0.001289	-
<b>Diseases/Conditions:</b> Epilepsies; Seizures; Action Myoclonus Renal Failure Syndrome; Dentatorubral-Pallidoluysian Atrophies; Atypical Inclusion Body Disease; Biotin Responsive	3282	-	-	-	0.000931	-

Encephalopathy; May White Syndrome  <b>Genes:</b> CSTB/STFB/CST6/PME/Cystatin B/Stefin B)/EPM1 (synonyms)						
<b>Diseases/Conditions:</b> X-linked Adrenoleukodystrophy; Diffuse Cerebral Sclerosis of Schilder; Peroxisomal Disorders; Leucodistrofia; Adrenocortical Hypofunction; ACYL-COA Oxidase Deficiency; Encephalitis Periaxialis Concentrica; Canavan Disease  <b>Genes:</b> ABCD1 WT Allele; ABC42; AMN; ACOX1; ECK2921/JW2892/FBA/FDA/FB AA (all synonyms); ECK1408/JW1412 (synonyms)  <b>Proteins:</b> ADLP  <b>Compounds:</b> VK-0214 (drug to treat X-ALD); Propanoic Acid; 2,2-DIMETHYL-,1,1'-[[[4-[[4-HYDROXY-3-(PHENYLMETHYL)PHENYL]METHYL]-3,5-DIMETHYLPHENOXY]METHYL]PHOSPHINYlidene]bis(OXYMETHYLENE)] ESTER; Ethylenediamine; Generation 4 Hydroxyl-Terminated Polyamidoamine Dendrimer Containing an Ethylene Diamene (EDA) Core, Amidoamine Repeat Units, and 64 Hydroxyl End Groups (SMP:00516)	7745	-	-	-	0.000846	-
<b>Diseases/Conditions:</b> Cadasil Syndrome; Carasil Syndrome; IMF2; Brain Small Vessel	1748	-	-	-	0.000841	-

<p>Disease; Retinal Arteriolar Tortuosity; Infantile Hemiparesis; Age-related Macular Degeneration; COL4A1-related Familial Vascular Leukoencephalopathy</p> <p><b>Genes:</b> NOTCH3; COL4A1; HTRA1/PRSS11/ARMD7/CARA SIL/L56/ORF480 (synonyms)</p> <p><b>Drugs/Compounds:</b> Cerebrolysin (Peptide Fraction Derived from Porcine Brain Protein); Palm Tocotrienol Complex</p>						
EIGENVECTOR CENTRALITY TOP NODES						
<p><b>Diseases/Conditions:</b> Involuntary and Abnormal Movements (Ataxias; Choreas; Dyskinesias; Dyssynergia; Dystonias; Ballismus; Hemiballism); Torticollis; Rubral Tremor; Brain Degeneration; Central Nervous System Degenerative Disorder; Cerebellar Dysmetria; Segawa Syndrome</p> <p><b>Genes:</b> SETX/SCAR1/AOA2/KIAA0625/ALS4/BA479K20.2 (synonyms); WASF1/WAVE1/WASP Family Protein Member 1 (synonyms); GCH1</p>	11196	-	-	-	-	1
<p><b>Diseases/Conditions:</b> X-linked Adrenoleukodystrophy; Diffuse Cerebral Sclerosis of Schilder; Peroxisomal Disorders; Leucodistrofia; Adrenocortical Hypofunction; ACYL-COA</p>	7745	-	-	-	-	0.939506

<p>Oxidase Deficiency; Encephalitis Periaxialis Concentrica; Canavan Disease</p> <p><b>Genes:</b> ABCD1 WT Allele; ABC42; AMN; ACOX1; ECK2921/JW2892/FBA/FDA/FBAA (all synonyms); ECK1408/JW1412 (synonyms)</p> <p><b>Proteins:</b> ADLP</p> <p><b>Compounds:</b> VK-0214 (drug to treat X-ALD); Propanoic Acid; 2,2-DIMETHYL-,1,1'-[[[4-[[4-HYDROXY-3-(PHENYLMETHYL)PHENYL]METHYL]-3,5-DIMETHYLPHENOXY]METHYL]PHOSPHINYLIDENE]BIS(OXYMETHYLENE)] ESTER; Ethylenediamine; Generation 4 Hydroxyl-Terminated Polyamidoamine Dendrimer Containing an Ethylene Diamene (EDA) Core, Amidoamine Repeat Units, and 64 Hydroxyl End Groups (SMP:00516)</p>						
<p>Abnormal Reflexes (both Hyperreflexia and Hyporeflexia)</p>	98105	-	-	-	-	0.471401
<p><b>Diseases/Conditions:</b> Epilepsies; Seizures; Action Myoclonus Renal Failure Syndrome; Dentatorubral-Pallidoluysian Atrophies; Atypical Inclusion Body Disease; Biotin Responsive Encephalopathy; May White Syndrome</p> <p><b>Genes:</b> CSTB/STFB/CST6/PME/Cystatin B/Stefin B)/EPM1 (synonyms)</p>	3282	-	-	-	-	0.461937

<b>Diseases/Conditions:</b> Parkinsonism; Perry Syndrome; Distal Hereditary Motor Neuropathy Type VIIIB; Susceptibility to Amyotrophic Lateral Sclerosis (ALS)  <b>Gene:</b> FBXO7/FBX7/FBX (synonyms); DCTN1/P150(GLUED), DROSOPHILA, HOMOLOG OF  <b>Drug:</b> MPTP (causes permanent symptoms of Parkinson's Disease)	12833	-	-	-	-	0.447028
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**Table 2. Most influential nodes by centrality scores in modularity class 0 of mc\_GBPN, which contains 140 nodes.**

Top Nodes	Top Node IDs	Degree	Closeness	Betweenness	PageRank	Eigenvector
DEGREE CENTRALITY TOP NODES						
<b>Diseases/Conditions:</b> X-linked Adrenoleukodystrophy; Diffuse Cerebral Sclerosis of Schilder; Peroxisomal Disorders; Leucodistrofia; Adrenocortical Hypofunction; ACYL-COA Oxidase Deficiency; Encephalitis Periaxialis Concentrica; Canavan Disease  <b>Genes:</b> ABCD1 WT Allele; ABC42; AMN; ACOX1; ECK2921/JW2892/FBA/FDA/FB AA (all synonyms); ECK1408/JW1412 (synonyms)	7745.0	9142	-	-	-	-

<b>Proteins:</b> ADLP  <b>Compounds:</b> VK-0214 (drug to treat X-ALD); Propanoic Acid; 2,2-DIMETHYL-,1,1'-[[[4-[[4-HYDROXY-3-(PHENYLMETHYL)PHENYL]METHYL]-3,5-DIMETHYLPHENOXY]METHYL]PHOSPHINYlidene]BIS(OXYMETHYLENE)] ESTER; Ethylenediamine; Generation 4 Hydroxyl-Terminated Polyamidoamine Dendrimer Containing an Ethylene Diamene (EDA) Core, Amidoamine Repeat Units, and 64 Hydroxyl End Groups (SMP:00516)						
<b>Diseases/Conditions:</b> Autosomal Dominant Leukodystrophy with Autonomic Disease; Adult-Onset Autosomal Dominant Demyelinating Leukodystrophy; Autosomal Dominant or Late-Onset Type Hypomyelinating Leukodystrophy 1; Multiple Sclerosis-Like Disorder  <b>Genes:</b> LMNB1 WT ALLELE	16586.0	2222	-	-	-	-
Muscle Spasticity	99665.0	773	-	-	-	-
Paraparesis	6501.0	726	-	-	-	-
Cognitive Decline/Impairment	99165.0	706	-	-	-	-
CLOSENESS CENTRALITY TOP NODES						
Abnormal Eye	69415.0	-	1	-	-	-
<b>Diseases/Conditions:</b> X-linked Adrenoleukodystrophy; Diffuse Cerebral Sclerosis of Schilder; Peroxisomal Disorders;	7745.0	-	0.695	-	-	-



<p>Leucodistrofia; Adrenocortical Hypofunction; ACYL-COA Oxidase Deficiency; Encephalitis Periaxialis Concentrica; Canavan Disease</p> <p><b>Genes:</b> ABCD1 WT Allele; ABC42; AMN; ACOX1; ECK2921/JW2892/FBA/FDA/FB AA (all synonyms); ECK1408/JW1412 (synonyms)</p> <p><b>Proteins:</b> ADLP</p> <p><b>Compounds:</b> VK-0214 (drug to treat X-ALD); Propanoic Acid; 2,2-DIMETHYL-,1,1'-[[[[4-[[4-HYDROXY-3-(PHENYLMETHYL)PHENYL]METHYL]-3,5-DIMETHYLPHENOXY]METHYL]PHOSPHINYLIDENE]BIS(OXYMETHYLENE)] ESTER; Ethylenediamine; Generation 4 Hydroxyl-Terminated Polyamidoamine Dendrimer Containing an Ethylene Diamene (EDA) Core, Amidoamine Repeat Units, and 64 Hydroxyl End Groups (SMP:00516)</p>						
<p><b>Diseases/Conditions:</b> Autosomal Dominant Leukodystrophy with Autonomic Disease; Adult-Onset Autosomal Dominant Demyelinating Leukodystrophy; Autosomal Dominant or Late-Onset Type Hypomyelinating Leukodystrophy 1; Multiple Sclerosis-Like Disorder</p> <p><b>Genes:</b> LMNB1 WT ALLELE</p>	16586.0	-	0.560484	-	-	-
Progressive Disorder	204801.0	-	0.5	-	-	-

Muscle Spasticity	99665.0	-	0.486014	-	-	-
BETWEENNESS CENTRALITY TOP NODES						
<b>Diseases/Conditions:</b> X-linked Adrenoleukodystrophy; Diffuse Cerebral Sclerosis of Schilder; Peroxisomal Disorders; Leucodistrofia; Adrenocortical Hypofunction; ACYL-COA Oxidase Deficiency; Encephalitis Periaxialis Concentrica; Canavan Disease  <b>Genes:</b> ABCD1 WT Allele; ABC42; AMN; ACOX1; ECK2921/JW2892/FBA/FDA/FB AA (all synonyms); ECK1408/JW1412 (synonyms)  <b>Proteins:</b> ADLP  <b>Compounds:</b> VK-0214 (drug to treat X-ALD); Propanoic Acid; 2,2-DIMETHYL-,1,1'-[[[4-[[4-HYDROXY-3-(PHENYLMETHYL)PHENYL]METHYL]-3,5-DIMETHYLPHENOXY]METHYL]PHOSPHINYLIDENE]BIS(OXYMETHYLENE)] ESTER; Ethylenediamine; Generation 4 Hydroxyl-Terminated Polyamidoamine Dendrimer Containing an Ethylene Diamene (EDA) Core, Amidoamine Repeat Units, and 64 Hydroxyl End Groups (SMP:00516)	7745.0	-	-	14468.646645	-	-
<b>Diseases/Conditions:</b> Autosomal Dominant Leukodystrophy with Autonomic Disease; Adult-Onset Autosomal Dominant Demyelinating Leukodystrophy; Autosomal	16586.0	-	-	8420.011527	-	-

<p>Dominant or Late-Onset Type Hypomyelinating Leukodystrophy 1; Multiple Sclerosis-Like Disorder</p> <p><b>Genes:</b> LMNB1 WT ALLELE</p>						
Paraparesis	6501.0	-	-	4354.509995	-	-
Muscle Spasticity	99665.0	-	-	404.967405	-	-
Cerebromedullospinal Disconnection (Locked-In Syndrome)	9892.0	-	-	303.234255	-	-
PAGERANK TOP NODES						
<p><b>Diseases/Conditions:</b> X-linked Adrenoleukodystrophy; Diffuse Cerebral Sclerosis of Schilder; Peroxisomal Disorders; Leucodistrofia; Adrenocortical Hypofunction; ACYL-COA Oxidase Deficiency; Encephalitis Periaxialis Concentrica; Canavan Disease</p> <p><b>Genes:</b> ABCD1 WT Allele; ABC42; AMN; ACOX1; ECK2921/JW2892/FBA/FDA/FB AA (all synonyms); ECK1408/JW1412 (synonyms)</p> <p><b>Proteins:</b> ADLP</p> <p><b>Compounds:</b> VK-0214 (drug to treat X-ALD); Propanoic Acid; 2,2-DIMETHYL-,1,1'-[[[4-[[4-HYDROXY-3-(PHENYLMETHYL)PHENYL]METHYL]-3,5-DIMETHYLPHENOXY]METHYL]PHOSPHINYLIDENE]BIS(OXYMETHYLENE)] ESTER; Ethylenediamine; Generation 4</p>	7745.0	-	-	-	0.011462	-

Hydroxyl-Terminated Polyamidoamine Dendrimer Containing an Ethylene Diamene (EDA) Core, Amidoamine Repeat Units, and 64 Hydroxyl End Groups (SMP:00516)						
Paraparesis	6501.0	-	-	-	0.005064	-
Facial Abnormality	179402.0	-	-	-	0.004333	-
<b>Diseases/Conditions:</b> Autosomal Dominant Leukodystrophy with Autonomic Disease; Adult-Onset Autosomal Dominant Demyelinating Leukodystrophy; Autosomal Dominant or Late-Onset Type Hypomyelinating Leukodystrophy 1; Multiple Sclerosis-Like Disorder  <b>Genes:</b> LMNB1 WT ALLELE	16586.0	-	-	-	0.004241	-
ABCD1 Gene	2597636	-	-	-	0.003252	-
EIGENVECTOR CENTRALITY TOP NODES						
<b>Diseases/Conditions:</b> X-linked Adrenoleukodystrophy; Diffuse Cerebral Sclerosis of Schilder; Peroxisomal Disorders; Leucodistrofia; Adrenocortical Hypofunction; ACYL-COA Oxidase Deficiency; Encephalitis Periaxialis Concentrica; Canavan Disease  <b>Genes:</b> ABCD1 WT Allele; ABC42; AMN; ACOX1; ECK2921/JW2892/FBA/FDA/FB AA (all synonyms); ECK1408/JW1412 (synonyms)  <b>Proteins:</b> ADLP	7745.0	-	-	-	-	1

<b>Compounds:</b> VK-0214 (drug to treat X-ALD); Propanoic Acid; 2,2-DIMETHYL-,1,1'-[[[4-[[4-HYDROXY-3-(PHENYLMETHYL)PHENYL]METHYL]-3,5-DIMETHYLPHENOXY]METHYL]PHOSPHINYLIDENE]BIS(OXYMETHYLENE)] ESTER; Ethylenediamine; Generation 4 Hydroxyl-Terminated Polyamidoamine Dendrimer Containing an Ethylene Diamene (EDA) Core, Amidoamine Repeat Units, and 64 Hydroxyl End Groups (SMP:00516)						
Attention Deficit-Hyperactivity Disorder (ADHD)	20690.0	-	-	-	-	0.369354
Vision impairment or loss	112590.0	-	-	-	-	0.33333
Hearing Impairment	86506.0	-	-	-	-	0.27995
Dementias, Amentia	94760.0	-	-	-	-	0.267873

**Table 3. Most influential nodes by centrality scores in modularity class 12 of mc\_GBPN, which contains 209 nodes.**

Top Nodes	Top Node IDs	Degree	Closeness	Betweenness	PageRank	Eigenvector
DEGREE CENTRALITY TOP NODES						
<b>Diseases/Conditions:</b> Involuntary and Abnormal Movements (Ataxias; Choreas; Dyskinesias; Dyssynergia; Dystonias; Ballismus; Hemiballism); Torticollis; Rubral Tremor; Brain Degeneration;	11196.0	3034	-	-	-	-

<p>Central Nervous System Degenerative Disorder; Cerebellar Dysmetria; Segawa Syndrome</p> <p><b>Genes:</b> SETX/SCAR1/AOA2/KIAA0625/ALS4/BA479K20.2 (synonyms); WASF1/WAVE1/WASP Family Protein Member 1 (synonyms); GCH1</p>						
<p><b>Diseases/Conditions:</b> Paroxysmal Exertion-Induced Dyskinesia; Paroxysmal Exercise-Induced Dystonia (DYT18, GLUT1 Deficiency); Dystonia 9; Susceptibility to Idiopathic Generalized Epilepsy (EIG12); Stomatin-Deficient Cryohydrocytosis with Neurologic Defects</p> <p><b>Genes:</b> SLC2A1; PEA15/HMAT1/HUMMAT1H/MAT1/MAT1H (synonyms); OCA2/BOCA/PED/P/Oculocutaneous Albinism II/Pink-Eyed Dilution/EYCL2/EYCL3/BEY1/BEY2/HCL3/SHEP1 (synonyms); D15S12; HTLVR</p> <p><b>Proteins:</b> GLUT1</p>	16457.0	2363	-	-	-	-
<p><b>Diseases/Conditions:</b> Spinocerebellar Ataxia 27 (SCA27)</p> <p><b>Genes:</b> FGF14/FHF4</p>	14825.0	1979	-	-	-	-
Spinocerebellar Ataxia 10	16277.0	1654	-	-	-	-
<p><b>Diseases/Conditions:</b> Spinocerebellar Ataxia 14</p>	14597.0	1545	-	-	-	-

<b>Gene:</b> PRKCG						
CLOSENESS CENTRALITY TOP NODES						
<b>Diseases/Conditions:</b> Involuntary and Abnormal Movements (Ataxias; Choreas; Dyskinesias; Dyssynergia; Dystonias; Ballismus; Hemiballism); Torticollis; Rubral Tremor; Brain Degeneration; Central Nervous System Degenerative Disorder; Cerebellar Dysmetria; Segawa Syndrome  <b>Genes:</b> SETX/SCAR1/AOA2/KIAA0625/ALS4/BA479K20.2 (synonyms); WASF1/WAVE1/WASP Family Protein Member 1 (synonyms); GCH1	11196.0	-	0.619048	-	-	-
Eye Movement Disorders	34532.0	-	0.468468	-	-	-
Dysarthria	64331.0	-	0.455142	-	-	-
Cerebellar Atrophy	98649.0	-	0.453159	-	-	-
<b>Diseases/Conditions:</b> Paroxysmal Exertion-Induced Dyskinesia; Paroxysmal Exercise-Induced Dystonia (DYT18, GLUT1 Deficiency); Dystonia 9; Susceptibility to Idiopathic Generalized Epilepsy (EIG12); Stomatin-Deficient Cryohydrocytosis with Neurologic Defects  <b>Genes:</b> SLC2A1; PEA15/HMAT1/HUMMAT1H/MAT1/MAT1H (synonyms); OCA2/BOCA/PED/P/Oculocutan	16457.0	-	0.448276	-	-	-

eous Albinism II/Pink-Eyed Dilution/EYCL2/EYCL3/BEY1/BEY2/HCL3/SHEP1 (synonyms); D15S12; HTLVR						
<b>Proteins:</b> GLUT1						
BETWEENNESS CENTRALITY TOP NODES						
<b>Diseases/Conditions:</b> Involuntary and Abnormal Movements (Ataxias; Choreas; Dyskinesias; Dyssynergia; Dystonias; Ballismus; Hemiballism); Torticollis; Rubral Tremor; Brain Degeneration; Central Nervous System Degenerative Disorder; Cerebellar Dysmetria; Segawa Syndrome	11196.0	-	-	29327.977985	-	-
<b>Genes:</b> SETX/SCAR1/AOA2/KIAA0625/ALS4/BA479K20.2 (synonyms); WASF1/WAVE1/WASP Family Protein Member 1 (synonyms); GCH1						
<b>Diseases/Conditions:</b> Paroxysmal Exertion-Induced Dyskinesia; Paroxysmal Exercise-Induced Dystonia (DYT18, GLUT1 Deficiency); Dystonia 9; Susceptibility to Idiopathic Generalized Epilepsy (EIG12); Stomatin-Deficient Cryohydrocytosis with Neurologic Defects	16457.0	-	-	12662.744274	-	-
<b>Genes:</b> SLC2A1; PEA15/HMAT1/HUMMAT1H/MAT1/MAT1H (synonyms); OCA2/BOCA/PED/P/Oculocutan						
eous Albinism II/Pink-Eyed						



Dilution/EYCL2/EYCL3/BEY1/BEY2/HCL3/SHEP1 (synonyms); D15S12; HTLVR  <b>Proteins:</b> GLUT1						
<b>Diseases/Conditions:</b> Spinocerebellar Ataxia 27 (SCA27)  <b>Genes:</b> FGF14/FHF4	14825.0	-	-	7740.613862	-	-
<b>Diseases/Conditions:</b> Spinocerebellar Ataxia 14  <b>Gene:</b> PRKCG	14597.0	-	-	6791.924766	-	-
Chiari Malformation	7919.0	-	-	5336.143675	-	-
PAGERANK TOP NODES						
<b>Diseases/Conditions:</b> Involuntary and Abnormal Movements (Ataxias; Choreas; Dyskinesias; Dyssynergia; Dystonias; Ballismus; Hemiballism); Torticollis; Rubral Tremor; Brain Degeneration; Central Nervous System Degenerative Disorder; Cerebellar Dysmetria; Segawa Syndrome  <b>Genes:</b> SETX/SCAR1/AOA2/KIAA0625/ ALS4/BA479K20.2 (synonyms); WASF1/WAVE1/WASP Family Protein Member 1 (synonyms); GCH1	11196.0	-	-	-	0.011451	-
Chiari Malformation	7919.0	-	-	-	0.004068	-
<b>Diseases/Conditions:</b> Paroxysmal Exertion-Induced Dyskinesia; Paroxysmal	16457.0	-	-	-	0.004033	-

<p>Exercise-Induced Dystonia (DYT18, GLUT1 Deficiency); Dystonia 9; Susceptibility to Idiopathic Generalized Epilepsy (EIG12); Stomatin-Deficient Cryohydrocytosis with Neurologic Defects</p> <p><b>Genes:</b> SLC2A1; PEA15/HMAT1/HUMMAT1H/MAT1/MAT1H (synonyms); OCA2/BOCA/PED/P/Oculocutaneous Albinism II/Pink-Eyed Dilution/EYCL2/EYCL3/BEY1/BEP1/HCL3/SHEP1 (synonyms); D15S12; HTLVR</p> <p><b>Proteins:</b> GLUT1</p>						
<p><b>Diseases/Conditions:</b> Spinocerebellar Ataxia 14</p> <p><b>Gene:</b> PRKCG</p>	14597.0	-	-	-	0.00321	-
<p><b>Disease/Condition:</b> Spinocerebellar Ataxia 40</p> <p><b>Compound:</b> 6-BROMO-8-METHYLAMINOIMIDAZO(1,2-A)PYRAZINE-2-CARBONITRILE</p>	18629.0	-	-	-	0.003154	-
EIGENVECTOR CENTRALITY TOP NODES						
<p><b>Diseases/Conditions:</b> Involuntary and Abnormal Movements (Ataxias; Choreas; Dyskinesias; Dyssynergia; Dystonias; Ballismus; Hemiballism); Torticollis; Rubral Tremor; Brain Degeneration; Central Nervous System Degenerative Disorder;</p>	11196.0	-	-	-	-	1

<p>Cerebellar Dysmetria; Segawa Syndrome</p> <p><b>Genes:</b> SETX/SCAR1/AOA2/KIAA0625/ALS4/BA479K20.2 (synonyms); WASF1/WAVE1/WASP Family Protein Member 1 (synonyms); GCH1</p>						
<p><b>Diseases/Conditions:</b> Paroxysmal Exertion-Induced Dyskinesia; Paroxysmal Exercise-Induced Dystonia (DYT18, GLUT1 Deficiency); Dystonia 9; Susceptibility to Idiopathic Generalized Epilepsy (EIG12); Stomatin-Deficient Cryohydrocytosis with Neurologic Defects</p> <p><b>Genes:</b> SLC2A1; PEA15/HMAT1/HUMMAT1H/MAT1/MAT1H (synonyms); OCA2/BOCA/PED/P/Oculocutaneous Albinism II/Pink-Eyed Dilution/EYCL2/EYCL3/BEY1/BEY2/HCL3/SHEP1 (synonyms); D15S12; HTLVR</p> <p><b>Proteins:</b> GLUT1</p>	16457.0	-	-	-	-	0.645021
<p><b>Diseases/Conditions:</b> Spinocerebellar Ataxia 27 (SCA27)</p> <p><b>Genes:</b> FGF14/FHF4</p>	14825.0	-	-	-	-	0.540776
Spinocerebellar Ataxia 10	16277.0	-	-	-	-	0.500544
Eye Movement Disorders	34532.0	-	-	-	-	0.401547

**Table 4. Most influential nodes by centrality scores in modularity class 38 of mc\_GBPN, which contains 132 nodes.**

Top Nodes	Top Node IDs	Degree	Closeness	Betweenness	PageRank	Eigenvector
DEGREE CENTRALITY TOP NODES						
<b>Disease/Condition:</b> Progressive Myoclonus Epilepsy  <b>Gene:</b> NHLRC1  <b>Drug:</b> Metformin	11691.0	2743	-	-	-	-
<b>Diseases/Conditions:</b> Epilepsies; Seizures; Action Myoclonus Renal Failure Syndrome; Dentatorubral-Pallidoluysian Atrophies; Atypical Inclusion Body Disease; Biotin Responsive Encephalopathy; May White Syndrome  <b>Genes:</b> CSTB/STFB/CST6/PME/Cystatin B/Stefin B)/EPM1 (synonyms)	3282.0	2327	-	-	-	-
<b>Diseases/Conditions:</b> Epilepsy Progressive Myoclonic Type 3; CLN14 Disease  <b>Gene:</b> KCTD7	3288.0	1579	-	-	-	-
<b>Diseases/Conditions:</b> Idiopathic Intracranial Hypertension (False Brain Tumor); Vitamin D Hypersensitivity  <b>Drug:</b> Exenatide	6102.0	1055	-	-	-	-

Autosomal Recessive Inheritance	140249.0	687	-	-	-	-
CLOSENESS CENTRALITY TOP NODES						
<b>Disease/Condition:</b> Progressive Myoclonic Epilepsy 1B  <b>Genes:</b> PRICKLE1	5353974	-	1	-	-	-
<b>Diseases/Conditions:</b> Epilepsies; Seizures; Action Myoclonus Renal Failure Syndrome; Dentatorubral-Pallidoluysian Atrophies; Atypical Inclusion Body Disease; Biotin Responsive Encephalopathy; May White Syndrome  <b>Genes:</b> CSTB/STFB/CST6/PME/Cystatin B/Stefin B)/EPM1 (synonyms)	3282.0	-	0.555085	-	-	-
<b>Disease/Condition:</b> Progressive Myoclonus Epilepsy  <b>Gene:</b> NHLRC1  <b>Drug:</b> Metformin	11691.0	-	0.479853	-	-	-
Autosomal Recessive Inheritance	140249.0	-	0.474638	-	-	-
Rare Non-neoplastic Disorder	1988270	-	0.451724	-	-	-
BETWEENNESS CENTRALITY TOP NODES						
<b>Diseases/Conditions:</b> Epilepsies; Seizures; Action Myoclonus Renal Failure Syndrome; Dentatorubral-Pallidoluysian Atrophies; Atypical Inclusion Body Disease; Biotin Responsive	3282.0	-	-	9175.543707	-	-

Encephalopathy; May White Syndrome  <b>Genes:</b> CSTB/STFB/CST6/PME/Cystatin B/Stefin B)/EPM1 (synonyms)						
<b>Disease/Condition:</b> Progressive Myoclonus Epilepsy  <b>Gene:</b> NHLRC1  <b>Drug:</b> Metformin	11691.0	-	-	6087.322262	-	-
<b>Diseases/Conditions:</b> Epilepsy Progressive Myoclonic Type 3; CLN14 Disease  <b>Gene:</b> KCTD7	3288.0	-	-	6066.169333	-	-
Autosomal Recessive Inheritance	140249.0	-	-	2050.491119	-	-
Rare Non-neoplastic Disorder	1988270	-	-	1259.881951	-	-
PAGERANK TOP NODES						
<b>Diseases/Conditions:</b> Epilepsies; Seizures; Action Myoclonus Renal Failure Syndrome; Dentatorubral-Pallidoluysian Atrophies; Atypical Inclusion Body Disease; Biotin Responsive Encephalopathy; May White Syndrome  <b>Genes:</b> CSTB/STFB/CST6/PME/Cystatin B/Stefin B)/EPM1 (synonyms)	3282.0	-	-	-	0.014253	-
<b>Diseases/Conditions:</b> Epilepsy Progressive Myoclonic Type 3; CLN14 Disease	3288.0	-	-	-	0.010603	-

<b>Gene:</b> KCTD7						
<b>Disease/Condition:</b> Progressive Myoclonus Epilepsy  <b>Gene:</b> NHLRC1  <b>Drug:</b> Metformin	11691.0	-	-	-	0.007742	-
Potassium Channel Tetramerization Domain-Containing Protein 7 (KCTD7)	5339270	-	-	-	0.003195	-
Intellectual Disability	54617.0	-	-	-	0.002714	-
EIGENVECTOR CENTRALITY TOP NODES						
<b>Diseases/Conditions:</b> Epilepsies; Seizures; Action Myoclonus Renal Failure Syndrome; Dentatorubral-Pallidoluysian Atrophies; Atypical Inclusion Body Disease; Biotin Responsive Encephalopathy; May White Syndrome  <b>Genes:</b> CSTB/STFB/CST6/PME/Cystatin B/Stefin B)/EPM1 (synonyms)	3282.0	-	-	-	-	1
<b>Disease/Condition:</b> Progressive Myoclonus Epilepsy  <b>Gene:</b> NHLRC1  <b>Drug:</b> Metformin	11691.0	-	-	-	-	0.974664
Autosomal Recessive Inheritance	140249.0	-	-	-	-	0.367225
<b>Diseases/Conditions:</b> Epilepsy Progressive Myoclonic Type 3; CLN14 Disease	3288.0	-	-	-	-	0.321674

<b>Gene:</b> KCTD7						
Skin Photosensitivity; Chronic Actinic Dermatitis	209060.0	-	-	-	-	0.22832

**Table 5. Most influential nodes by centrality scores in modularity class 27 of mc\_GBPN, which contains 156 nodes.**

Top Nodes	Top Node IDs	Degree	Closeness	Betweenness	PageRank	Eigenvector
DEGREE CENTRALITY TOP NODES						
<b>Diseases/Conditions:</b> Amyotrophic Lateral Sclerosis (ALS); Juvenile Primary Lateral Sclerosis; Infantile-Onset Ascending Spastic Paralysis; Charcot Disease; Dementia with ALS; Anterior Horn Cell Disease; Motor Neuron Diseases; Acid-Labile Subunit Definiciency; Aran-Duchenne Muscular Atrophy; ALS-Polyglucosen Bodies  <b>Genes:</b> SOD1/ALS1/IPOA/STAHP/hSod 1/HEL-S-44/Homodimer (synonyms); ALS2/KIAA1563 (synonyms); IGFALS  <b>Proteins:</b> Ciliary Neurotrophic Factor; IGFBP  <b>Drugs/Compounds/Treatments</b> : Mescasermin Rinfabate; Orgotein for injection, ALS; Clenbuterol (Spiropent);	6002.0	2738	-	-	-	-



<p>S-[+]-Apomorphine; IPLEX; ETR019 (Superoxide Dismutase, Gliadin); Valine; Riluzole Oral Soluble Film (ROSF); Antilymphocyte Serum (Antilymphocyte Globulin); Tegoprubart (AT-1501); Toralizumab; Humanized Anti-CD40LG IGG1, Kappa Monoclonal Antibody with Heavy Chain C220S/C226S/C229S/P238S Substitutions to Attenuate Effector Function; Rocephin (Ceftriaxone Sodium); Isoleucine; Copaxone Protirelin Injection, GM-603 (Glatiramer Acetate); Ozanezumab; DIACETYL(N(4)-METHYLTHIOS EMICARBAZONATO) COPPER (II); Telbermin; Branched Chain Amino Acids; Anti-Nogo-A Monoclonal Antibody; Cannabidiol; DELTA-9-TETRAHYDROCANNA BINOL (THC); Pterostilbene; EPI-589; Threostat; Neurontin (Gabapentin); Mescamerin; Rilutek (Riluzole); Nicotinamide and Pterostilbene; Oxaloacetic Acid; L-Threonine; LSP-GR3 (2'-O-METHYL PHOSPHOROTHIOATE 5'-GCUAGGUUUACGGGACCU CU-3'); Smilagenin; Cogane; Teglutik; Olesoxime; Nuedexta (Dextromethorphan Hydrobromide/Quinidine Sulfate); Oxime; 4-CHOLEST-EN-3-ONE; Noscapine; Acthar Gel (Repository Corticortropin Injection); Oligopeptide Containing 6 Amino Acids;</p>						
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Levosimedan; Sarsasapogenin; Talampanel; HYDROCINNAMATE-[ORN-PRO -DCHA-TRP-ARG](CH3COO); DL-3-N-BUTYLPHTHALIDE; Cyclosporin (Mitogard); Arimoclomol; BIS-CHOLINE TETRATHIOMOLYBDATE; SODIUM CHLORITE; Tirasemtiv; Leucine; Ibudilast; Creatine; Creapure; SODIUM PHENYLBUTYRATE; TAUROURSODEOXYCHOLIC ACID DIHYDRATE; Filgrastim; LACTOBACILLUS PLANTARUM; Edaravone; Dexpramipexole; Procysteine; Masitinib Mesylate; AEOL-10150; HER-902; TAUROURSODEOXYCHOLIC ACID DIHYDRATE; NI-204; AUTOLOGOUS ADIPOSE DERIVED MESENCHYMAL STROMAL CELLS; MONONUCLEAR ENRICHED FRACTION OF HUMAN UMBILICAL CORD BLOOD; ELECTROKINETICALLY ALTERED SALINE SOLUTION WITH AN ELEVATED DISSOLVED OXYGEN CONCENTRATION; Enzumestrocel; U-CORD-CELL(R); ANTISENSE OLIGONUCLEOTIDE INHIBITOR OF THE EXPRESSION OF SUPEROXIDE DISMUTASE 1 GENE; ALLOGENEIC MOTOR NEURON PROGENITOR CELLS DERIVED FROM HUMAN EMBRYONIC STEM CELLS; DNA PLASMID VECTOR (PCK-HGFX7) EXPRESSING						
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HUMAN HEPATOCYTE GROWTH FACTOR; NurOwn; Hsp70; HUTC; MESENCHYMAL STROMAL CELLS SECRETING NEUROTROPHIC FACTORS; CAPRINE HYPERIMMUNE SERUM AGAINST HIV LYSATE; NDX-Peptides; EX-VIVO EXPANDED AUTOLOGOUS BONE MARROW-DERIVED MESENCHYMAL STEM CELLS; RECOMBINANT HUMAN ANTIBODY DIRECTED AGAINST HUMAN MISFOLDED SUPEROXIDE DISMUTASE 1; Phosphorothioate Oligonucleotide; AUTOLOGOUS OLFACTORY NEURAL PROGENITORS						
DCTN1; PRPH; SOD1; NEFH Gene (Synonyms)	5378089	150	-	-	-	-
Post Transplant Acute Limbic Encephalitis; Skin Paleness	131867	117	-	-	-	-
Early Childhood Onset	855067	81	-	-	-	-
Spasticity of Facial Muscles	62679	75	-	-	-	-
CLOSENESS CENTRALITY TOP NODES						
135 nodes in modularity class 27 have the highest possible closeness centrality score of 1. See the full list <a href="#">here</a> .						
BETWEENNESS CENTRALITY TOP NODES						
<b>Diseases/Conditions:</b> Amyotrophic Lateral Sclerosis (ALS); Juvenile Primary Lateral Sclerosis; Infantile-Onset Ascending Spastic Paralysis; Charcot Disease; Dementia with ALS; Anterior Horn Cell Disease; Motor Neuron Diseases; Acid-Labile Subunit Definiciency;	6002.0	-	-	15494	-	-

<p>Aran-Duchenne Muscular Atrophy; ALS-Polyglucosen Bodies</p> <p><b>Genes:</b> SOD1/ALS1/IPOA/STAHP/hSod1/HEL-S-44/Homodimer (synonyms); ALS2/KIAA1563 (synonyms); IGFALS</p> <p><b>Proteins:</b> Ciliary Neurotrophic Factor; IGFBP</p> <p><b>Drugs/Compounds/Treatments</b> : Mescasermin Rinfabate; Orgotein for injection, ALS; Clenbuterol (Spiropent); S-[+]-Apomorphine; IPLEX; ETR019 (Superoxide Dismutase, Gliadin); Valine; Riluzole Oral Soluble Film (ROSF); Antilymphocyte Serum (Antilymphocyte Globulin); Tegoprubart (AT-1501); Toralizumab; Humanized Anti-CD40LG IGG1, Kappa Monoclonal Antibody with Heavy Chain C220S/C226S/C229S/P238S Substitutions to Attenuate Effector Function; Rocephin (Ceftriaxone Sodium); Isoleucine; Copaxone Protirelin Injection, GM-603 (Glatiramer Acetate); Ozanezumab; DIACETYL(N(4)-METHYLTHIOS EMICARBAZONATO) COPPER (II); Telbermin; Branched Chain Amino Acids; Anti-Nogo-A Monoclonal Antibody; Cannabidiol; DELTA-9-TETRAHYDROCANNA BINOL (THC); Pterostilbene;</p>						
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<p>EPI-589; Threostat; Neurontin (Gabapentin); Mescamerin; Rilutek (Riluzole); Nicotinamide and Pterostilbene; Oxaloacetic Acid; L-Threonine; LSP-GR3 (2'-O-METHYL PHOSPHOROTHIOATE 5'-GCUAGGUUUACGGGACCU CU-3'); Smilagenin; Cogane; Teglutik; Olesoxime; Nuedexta (Dextromethorphan Hydrobromide/Quinidine Sulfate); Oxime; 4-CHOLEST-EN-3-ONE; Noscapine; Acthar Gel (Repository Corticotropin Injection); Oligopeptide Containing 6 Amino Acids; Levosimedan; Sarsasapogenin; Talampanel; HYDROCINNAMATE-[ORN-PRO -DCHA-TRP-ARG](CH3COO); DL-3-N-BUTYLPHthalide; Cyclosporin (Mitogard); Arimoclomol; BIS-CHOLINE TETRATHIOMOLYBDATE; SODIUM CHLORITE; Tirasemtiv; Leucine; Ibudilast; Creatine; Creapure; SODIUM PHENYLBUTYRATE; TAUROURSODEOXYCHOLIC ACID DIHYDRATE; Filgrastim; LACTOBACILLUS PLANTARUM; Edaravone; Dexpramipexole; Procysteine; Masitinib Mesylate; AEOL-10150; HER-902; TAUROURSODEOXYCHOLIC ACID DIHYDRATE; NI-204; AUTOLOGOUS ADIPOSE DERIVED MESENCHYMAL STROMAL CELLS; MONONUCLEAR ENRICHED FRACTION OF HUMAN UMBILICAL CORD BLOOD;</p>						
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<p><b>Diseases/Conditions:</b></p> <p>Amyotrophic Lateral Sclerosis (ALS); Juvenile Primary Lateral Sclerosis; Infantile-Onset Ascending Spastic Paralysis; Charcot Disease; Dementia with ALS; Anterior Horn Cell Disease; Motor Neuron Diseases; Acid-Labile Subunit Deficiency; Aran-Duchenne Muscular Atrophy; ALS-Polyglucosin Bodies</p> <p><b>Genes:</b></p> <p>SOD1/ALS1/IPOA/STAH1/hSOD1/HEL-S-44/Homodimer (synonyms); ALS2/KIAA1563 (synonyms); IGFALS</p> <p><b>Proteins:</b> Ciliary Neurotrophic Factor; IGFBP</p> <p><b>Drugs/Compounds/Treatments</b></p> <p>: Mescaline Rinfabate; Orgotein for injection, ALS; Clenbuterol (Spiropent); S-[+]-Apomorphine; IPLEX; ETR019 (Superoxide Dismutase, Gliadin); Valine; Riluzole Oral Soluble Film (ROSF); Antilymphocyte Serum (Antilymphocyte Globulin); Tegoprunar (AT-1501); Toralizumab; Humanized Anti-CD40LG IGG1, Kappa Monoclonal Antibody with Heavy Chain C220S/C226S/C229S/P238S Substitutions to Attenuate Effector Function; Rocephin (Ceftriaxone Sodium); Isoleucine; Copaxone Protirelin Injection, GM-603 (Glatiramer Acetate);</p>	6002.0	-	-	-	0.040059	-
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<p>Ozanezumab; DIACETYL(N(4)-METHYLTHIOS EMICARBAZONATO) COPPER (II); Telbermin; Branched Chain Amino Acids; Anti-Nogo-A Monoclonal Antibody; Cannabidiol; DELTA-9-TETRAHYDROCANNA BINOL (THC); Pterostilbene; EPI-589; Threostat; Neurontin (Gabapentin); Mescamerin; Rilutek (Riluzole); Nicotinamide and Pterostilbene; Oxaloacetic Acid; L-Threonine; LSP-GR3 (2'-O-METHYL PHOSPHOROTHIOATE 5'-GCUAGGUUUACGGGACCU CU-3'); Smilagenin; Cogane; Teglutik; Olesoxime; Nuedexta (Dextromethorphan Hydrobromide/Quinidine Sulfate); Oxime; 4-CHOLEST-EN-3-ONE; Noscapine; Acthar Gel (Repository Corticotropin Injection); Oligopeptide Containing 6 Amino Acids; Levosimedan; Sarsasapogenin; Talampanel; HYDROCINNAMATE-[ORN-PRO -DCHA-TRP-ARG](CH3COO); DL-3-N-BUTYLPHTHALIDE; Cyclosporin (Mitogard); Arimoclomol; BIS-CHOLINE TETRATHIOMOLYBDATE; SODIUM CHLORITE; Tirasemtiv; Leucine; Ibudilast; Creatine; Creapure; SODIUM PHENYLBUTYRATE; TAUROURSODEOXYCHOLIC ACID DIHYDRATE; Filgrastim; LACTOBACILLUS PLANTARUM; Edaravone; Dexpramipexole; Procysteine; Masitinib Mesylate;</p>						
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AEOL-10150; HER-902;  
TAUROURSODEOXYCHOLIC  
ACID DIHYDRATE; NI-204;  
AUTOLOGOUS ADIPOSE  
DERIVED MESENCHYMAL  
STROMAL CELLS;  
MONONUCLEAR ENRICHED  
FRACTION OF HUMAN  
UMBILICAL CORD BLOOD;  
ELECTROKINETICALLY  
ALTERED SALINE SOLUTION  
WITH AN ELEVATED  
DISSOLVED OXYGEN  
CONCENTRATION;  
Enzumestrocel;  
U-CORD-CELL(R); ANTISENSE  
OLIGONUCLEOTIDE  
INHIBITOR OF THE  
EXPRESSION OF  
SUPEROXIDE DISMUTASE 1  
GENE; ALLOGENEIC MOTOR  
NEURON PROGENITOR CELLS  
DERIVED FROM HUMAN  
EMBRYONIC STEM CELLS;  
DNA PLASMID VECTOR  
(PCK-HGFX7) EXPRESSING  
HUMAN HEPATOCYTE  
GROWTH FACTOR; NurOwn;  
Hsp70; HUTC; MESENCHYMAL  
STROMAL CELLS SECRETING  
NEUROTROPHIC FACTORS;  
CAPRINE HYPERIMMUNE  
SERUM AGAINST HIV LYSATE;  
NDX-Peptides; EX-VIVO  
EXPANDED AUTOLOGOUS  
BONE MARROW-DERIVED  
MESENCHYMAL STEM CELLS;  
RECOMBINANT HUMAN  
ANTIBODY DIRECTED  
AGAINST HUMAN MISFOLDED  
SUPEROXIDE DISMUTASE 1;  
Phosphorothioate  
Oligonucleotide; AUTOLOGOUS

OLFACTORY NEURAL PROGENITORS						
Fatigable Weakness of Swallowing Muscles	128667.0	-	-	-	0.004912	-
Fatigable Weakness of Bulbar Muscles	128455.0	-	-	-	0.00425	-
DCTN1; PRPH; SOD1; NEFH Gene (Synonyms)	5366496	-	-	-	0.00402	-
Abnormal Respiration	160420	-	-	-	0.002597	-
EIGENVECTOR CENTRALITY TOP NODES						
<b>Diseases/Conditions:</b> Amyotrophic Lateral Sclerosis (ALS); Juvenile Primary Lateral Sclerosis; Infantile-Onset Ascending Spastic Paralysis; Charcot Disease; Dementia with ALS; Anterior Horn Cell Disease; Motor Neuron Diseases; Acid-Labile Subunit Definiciency; Aran-Duchenne Muscular Atrophy; ALS-Polyglucosen Bodies  <b>Genes:</b> SOD1/ALS1/IPOA/STAHP/hSod 1/HEL-S-44/Homodimer (synonyms); ALS2/KIAA1563 (synonyms); IGFALS  <b>Proteins:</b> Ciliary Neurotrophic Factor; IGFBP  <b>Drugs/Compounds/Treatments</b> : Mescasermin Rinfabate; Orgotein for injection, ALS; Clenbuterol (Spiropent); S-[+]-Apomorphine; IPLEX; ETR019 (Superoxide Dismutase, Gliadin); Valine; Riluzole Oral	6002.0	-	-	-	-	1

<p>Soluble Film (ROSF); Antilymphocyte Serum (Antilymphocyte Globulin); Tegoprubart (AT-1501); Toralizumab; Humanized Anti-CD40LG IGG1, Kappa Monoclonal Antibody with Heavy Chain C220S/C226S/C229S/P238S Substitutions to Attenuate Effector Function; Rocephin (Ceftriaxone Sodium); Isoleucine; Copaxone Protirelin Injection, GM-603 (Glatiramer Acetate); Ozanezumab; DIACETYL(N(4)-METHYLTHIOS EMICARBAZONATO) COPPER (II); Telbermin; Branched Chain Amino Acids; Anti-Nogo-A Monoclonal Antibody; Cannabidiol; DELTA-9-TETRAHYDROCANNA BINOL (THC); Pterostilbene; EPI-589; Threostat; Neurontin (Gabapentin); Mescamerin; Rilutek (Riluzole); Nicotinamide and Pterostilbene; Oxaloacetic Acid; L-Threonine; LSP-GR3 (2'-O-METHYL PHOSPHOROTHIOATE 5'-GCUAGGUUUACGGGACCU CU-3'); Smilagenin; Cogane; Teglutik; Olesoxime; Nuedexta (Dextromethorphan Hydrobromide/Quinidine Sulfate); Oxime; 4-CHOLEST-EN-3-ONE; Noscapine; Acthar Gel (Repository Corticotropin Injection); Oligopeptide Containing 6 Amino Acids; Levosimedan; Sarsasapogenin; Talampanel; HYDROCINNAMATE-[ORN-PRO</p>						
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<p>-DCHA-TRP-ARG](CH3COO); DL-3-N-BUTYLPHTHALIDE; Cyclosporin (Mitogard); Arimoclomol; BIS-CHOLINE TETRATHIOMOLYBDATE; SODIUM CHLORITE; Tirasemtiv; Leucine; Ibudilast; Creatine; Creapure; SODIUM PHENYLBUTYRATE; TAUOURSODEOXYCHOLIC ACID DIHYDRATE; Filgrastim; LACTOBACILLUS PLANTARUM; Edaravone; Dexpramipexole; Procysteine; Masitinib Mesylate; AEOL-10150; HER-902; TAUOURSODEOXYCHOLIC ACID DIHYDRATE; NI-204; AUTOLOGOUS ADIPOSE DERIVED MESENCHYMAL STROMAL CELLS; MONONUCLEAR ENRICHED FRACTION OF HUMAN UMBILICAL CORD BLOOD; ELECTROKINETICALLY ALTERED SALINE SOLUTION WITH AN ELEVATED DISSOLVED OXYGEN CONCENTRATION; Enzumestrocel; U-CORD-CELL(R); ANTISENSE OLIGONUCLEOTIDE INHIBITOR OF THE EXPRESSION OF SUPEROXIDE DISMUTASE 1 GENE; ALLOGENEIC MOTOR NEURON PROGENITOR CELLS DERIVED FROM HUMAN EMBRYONIC STEM CELLS; DNA PLASMID VECTOR (PCK-HGFX7) EXPRESSING HUMAN HEPATOCYTE GROWTH FACTOR; NurOwn; Hsp70; HUTC; MESENCHYMAL</p>						
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STROMAL CELLS SECRETING NEUROTROPHIC FACTORS; CAPRINE HYPERIMMUNE SERUM AGAINST HIV LYSATE; NDX-Peptides; EX-VIVO EXPANDED AUTOLOGOUS BONE MARROW-DERIVED MESENCHYMAL STEM CELLS; RECOMBINANT HUMAN ANTIBODY DIRECTED AGAINST HUMAN MISFOLDED SUPEROXIDE DISMUTASE 1; Phosphorothioate Oligonucleotide; AUTOLOGOUS OLFACTORY NEURAL PROGENITORS						
Skin paleness; Clammy Skin; Posttransplant Acute Limbic Encephalitis	131867.0	-	-	-	-	0.446347
DCTN1; PRPH; SOD1; NEFH Gene (Synonyms)	5366496	-	-	-	-	0.349915
Spasticity of Facial Muscles	62679	-	-	-	-	0.300003
Spastic Quadreparesis	98084	-	-	-	-	0.300003

**Table 6. Most influential nodes by centrality scores in modularity class 21 of mc\_GBPN, which contains 94 nodes.**

Top Nodes	Top Node IDs	Degree	Closeness	Betweenness	PageRank	Eigenvector
DEGREE CENTRALITY TOP NODES						
<b>Diseases/Conditions:</b> Parkinsonism; Perry Syndrome; Distal Hereditary Motor	12833.0	4805	-	-	-	-

<p>Neuropathy Type VIIB; Susceptibility to Amyotrophic Lateral Sclerosis (ALS)</p> <p><b>Gene:</b> FBXO7/FBX7/FBX (synonyms); DCTN1/P150(GLUED), DROSOPHILA, HOMOLOG OF</p> <p><b>Drug:</b> MPTP (causes permanent symptoms of Parkinson's Disease)</p>						
<p><b>Diseases/Conditions:</b> Frontotemporal Dementia; Semantic Dementia; Hereditary Dysphasic Disinhibition Dementia; Multiple System Tauopathy with Presenile Dementia; Primary Progressive Aphasia; Disinhibition-Dementia-Parkinson ism-Amyotrophy Complex; Wilhelmsen-Lynch Disease; Susceptibility to Late-Onset Parkinson Disease; Progresssive Supranuclear Palsy 1; Familial Alzheimer's Disease 3; MAPT-Related Disorders; Pallidopontonigral Degeneration; Cardiomyopathy, Dilated 1U; Neuronal Ceroid Lipofuscinosis 11</p> <p><b>Genes:</b> MAPT/FTDP-17/MTBT1 (synonyms); PSEN1/PS1/S182 (synonyms); GRN/GEP/GP88/PEPI/PGRN/CLN1 1/PCDGF (synonyms)</p> <p><b>Proteins:</b> Acrogranin; 88-KD Glycoprotein; Granulin; Progranulin; Epithelins;</p>	11996.0	710	-	-	-	-

Proepithelin; PC Cell-Derived Growth Factor; Microtubule-Associated Protein Tau						
<p><b>Diseases/Conditions:</b> Progressive Supranuclear Palsy; Pneumothorax; Hereditary Prostate Cancer 13</p> <p><b>Genes:</b> STXBP3/UNC-18C (synonyms); HRSP12/Perchloric Acid-Soluble Protein, 14.5-KD (synonyms); USP6/TRE-2 (synonyms); REG1A; PSPN; MSMB/PSP57/PSP/MSPB/IGBF/PRPS/PSP-94/PN44/MSP/RP11-481A12.1 (synonyms)</p> <p><b>Proteins:</b> MUNC18C; Platelet SEC1; UK114; Parathyroid Secretory Protein/CGA (synonyms); UNC18, C. ELEGANS, HOMOLOG OF, 3; Pancreatic Stone Protein (PSP)/Lithostathine-1-alpha islet cells regeneration factor (ICRF)/islet of Langerhans regenerating protein (REG) (synonyms); BPIFA2/C20ORF70/SPLUNC2/B A49G10.1 (synonyms); P19</p> <p><b>Drugs/Compounds:</b> Tideglusib; Tolfenamic Acid; TPI-287; 4-BENZYL-2-(A-NAPHTYL)-1,2,4-THIADIAZOLIDINE-3,5-DIONE ; Chromostatin; Catestatin; Pancreastatin; Phenolsulfonphthalein/Phenol Red (synonyms); ASN120290; AZP-2006 DISULFATE; ABBV-8E12; MK-8719; TPI-287; BMS-986168; MCD-386CR;</p>	10835.0	468	-	-	-	-

MNI-958; 5-(3-ETHYL-1,2,4-OXADIAZOL-5-YL)-1,4,5,6-TETRAHYDROPYRIMIDINE HYDROCHLORIDE; ANTI-ETAU HUMANIZED IGG4 MONOCLONAL ANTIBODY; COMPETITIVE AND REVERSIBLE SMALL MOLECULE INHIBITOR OF THE O-LINKED-B-N-ACETYLGLUCOSAMINIDASE ENZYME, N-(3-(4-(3-(DIISOBUTYLAMINO)PROPYL)PIPERAZIN-1-YL)PROPYL)-1H-BENZO[D]IMIDAZOL-2-AMINE DISULPHATE SALT; 5B-20-EPOXY-1B,2A,4A,7B,9A,10A,13A-HEPTAHYDROXY-4,10-DIACETATE-2-BENZOATE-(1S)-7,9-ACROLEIN ACETAL-11(15-1)-ABEOTAXAN E; (2'R,3'S)-2'-HYDROXY-N-CARBOXY-3'-AMINO-5'-METHYL-HEXANOIC,N-TERT-BUTYL ESTER, 13 ESTER						
Tremors	81523.0	463	-	-	-	-
Muscle Rigidity	206738.0	395	-	-	-	-
CLOSENESS CENTRALITY TOP NODES						
Speech Impairment	189539.0	-	1	-	-	-
<b>Diseases/Conditions:</b> Parkinsonism; Perry Syndrome; Distal Hereditary Motor Neuropathy Type VIIIB; Susceptibility to Amyotrophic Lateral Sclerosis (ALS)  <b>Gene:</b> FBXO7/FBX7/FBX (synonyms);	12833.0	-	0.758621	-	-	-



DCTN1/P150(GLUED), DROSOPHILA, HOMOLOG OF  <b>Drug:</b> MPTP (causes permanent symptoms of Parkinson's Disease)						
Reading Disability	128804.0	-	0.666667	-	-	-
Amnesic Aphasia; Anomic Aphasia	81384.0	-	0.666667	-	-	-
<b>Diseases/Conditions:</b> Progressive Supranuclear Palsy; Pneumothorax; Hereditary Prostate Cancer 13  <b>Genes:</b> STXBP3/UNC-18C (synonyms); HRSP12/Perchloric Acid-Soluble Protein, 14.5-KD (synonyms); USP6/TRE-2 (synonyms); REG1A; PSPN; MSMB/PSP57/PSP/MSPB/IGBF/ PRPS/PSP-94/PN44/MSP/RP11- 481A12.1 (synonyms)  <b>Proteins:</b> MUNC18C; Platelet SEC1; UK114; Parathyroid Secretory Protein/CGA (synonyms); UNC18, C. ELEGANS, HOMOLOG OF, 3; Pancreatic Stone Protein (PSP)/Lithostathine-1-alpha islet cells regeneration factor (ICRF)/ islet of Langerhans regenerating protein (REG) (synonyms); BPIFA2/C20ORF70/SPLUNC2/B A49G10.1 (synonyms); P19  <b>Drugs/Compounds:</b> Tideglusib; Tolfenamic Acid; TPI-287; 4-BENZYL-2-(A-NAPHTYL)-1,2, 4-THIADIAZOLIDINE-3,5-DIONE ; Chromostatin; Catestatin;	10835.0	-	0.586667	-	-	-

<p>Pancreastatin; Phenolsulfonphthalein/Phenol Red (synonyms); ASN120290; AZP-2006 DISULFATE; ABBV-8E12; MK-8719; TPI-287; BMS-986168; MCD-386CR; MNI-958; 5-(3-ETHYL-1,2,4-OXADIAZOL-5-YL)-1,4,5,6-TETRAHYDROPYRIMIDINE HYDROCHLORIDE; ANTI-ETAU HUMANIZED IGG4 MONOCLONAL ANTIBODY; COMPETITIVE AND REVERSIBLE SMALL MOLECULE INHIBITOR OF THE O-LINKED-B-N-ACETYLGLUCOSAMINIDASE ENZYME, N-(3-(4-(3-(DIISOBUTYLAMINO)PROPYL)PIPERAZIN-1-YL)PROPYL)-1H-BENZO[D]IMIDAZOL-2-AMINE DISULPHATE SALT; 5B-20-EPOXY-1B,2A,4A,7B,9A,10A,13A-HEPTAHYDROXY-4,10-DIACETATE-2-BENZOATE-(1S)-7,9-ACROLEIN ACETAL-11(15-1)-ABEOTAXAN E; (2'R,3'S)-2'-HYDROXY-N-CARBOXY-3'-AMINO-5'-METHYL-HEXANOIC,N-TERT-BUTYL ESTER, 13 ESTER</p>						
BETWEENNESS CENTRALITY TOP NODES						
<p><b>Diseases/Conditions:</b> Parkinsonism; Perry Syndrome; Distal Hereditary Motor Neuropathy Type VIIb; Susceptibility to Amyotrophic Lateral Sclerosis (ALS)</p> <p><b>Gene:</b> FBXO7/FBX7/FBX (synonyms);</p>	12833.0	-	-	6034.204278	-	-

DCTN1/P150(GLUED), DROSOPHILA, HOMOLOG OF  <b>Drug:</b> MPTP (causes permanent symptoms of Parkinson's Disease)						
<b>Diseases/Conditions:</b> Progressive Supranuclear Palsy; Pneumothorax; Hereditary Prostate Cancer 13  <b>Genes:</b> STXBP3/UNC-18C (synonyms); HRSP12/Perchloric Acid-Soluble Protein, 14.5-KD (synonyms); USP6/TRE-2 (synonyms); REG1A; PSPN; MSMB/PSP57/PSP/MSPB/IGBF/ PRPS/PSP-94/PN44/MSP/RP11- 481A12.1 (synonyms)  <b>Proteins:</b> MUNC18C; Platelet SEC1; UK114; Parathyroid Secretory Protein/CGA (synonyms); UNC18, C. ELEGANS, HOMOLOG OF, 3; Pancreatic Stone Protein (PSP)/Lithostathine-1-alpha islet cells regeneration factor (ICRF)/ islet of Langerhans regenerating protein (REG) (synonyms); BPIFA2/C20ORF70/SPLUNC2/B A49G10.1 (synonyms); P19  <b>Drugs/Compounds:</b> Tideglusib; Tolfenamic Acid; TPI-287; 4-BENZYL-2-(A-NAPHTYL)-1,2, 4-THIADIAZOLIDINE-3,5-DIONE ; Chromostatin; Catestatin; Pancreastatin; Phenolsulfonphthalein/Phenol Red (synonyms); ASN120290; AZP-2006 DISULFATE;	10835.0	-	-	3018.106921	-	-

ABBV-8E12; MK-8719; TPI-287; BMS-986168; MCD-386CR; MNI-958; 5-(3-ETHYL-1,2,4-OXADIAZOL-5-YL)-1,4,5,6-TETRAHYDROPYRIMIDINE HYDROCHLORIDE; ANTI-ETAU HUMANIZED IGG4 MONOCLONAL ANTIBODY; COMPETITIVE AND REVERSIBLE SMALL MOLECULE INHIBITOR OF THE O-LINKED-B-N-ACETYLGLUCOSAMINIDASE ENZYME, N-(3-(4-(3-(DIISOBUTYLAMINO)PROPYL)PIPERAZIN-1-YL)PROPYL)-1H-BENZO[D]IMIDAZOL-2-AMINE DISULPHATE SALT; 5B-20-EPOXY-1B,2A,4A,7B,9A,10A,13A-HEPTAHYDROXY-4,10-DIACETATE-2-BENZOATE-(1S)-7,9-ACROLEIN ACETAL-11(15-1)-ABEOTAXAN E; (2'R,3'S)-2'-HYDROXY-N-CARBOXY-3'-AMINO-5'-METHYL-HEXANOIC,N-TERT-BUTYL ESTER, 13 ESTER						
<b>Diseases/Conditions:</b> Frontotemporal Dementia; Semantic Dementia; Hereditary Dysphasic Disinhibition Dementia; Multiple System Tauopathy with Presenile Dementia; Primary Progressive Aphasia; Disinhibition-Dementia-Parkinsonism-Amyotrophy Complex; Wilhelmsen-Lynch Disease; Susceptibility to Late-Onset Parkinson Disease; Progresssive Supranuclear Palsy 1; Familial Alzheimer's Disease 3;	11996.0	-	-	396.045509	-	-

<p>MAPT-Related Disorders;  Pallidopontonigral Degeneration;  Cardiomyopathy, Dilated 1U;  Neuronal Ceroid Lipofuscinosis  11</p> <p><b>Genes:</b> MAPT/FTDP-17/MTBT1  (synonyms); PSEN1/PS1/S182  (synonyms);  GRN/GEP/GP88/PEPI/PGRN/CLN1  1/PCDGF (synonyms)</p> <p><b>Proteins:</b> Acrogranin; 88-KD  Glycoprotein; Granulin;  Progranulin; Epithelins;  Proepithelin; PC Cell-Derived  Growth Factor;  Microtubule-Associated Protein  Tau</p>						
Weight Loss	75726.0	-	-	52.734878	-	-
Apathy	169420.0	-	-	36.521739	-	-
PAGERANK TOP NODES						
<p><b>Diseases/Conditions:</b>  Progressive Supranuclear Palsy;  Pneumothorax; Hereditary  Prostate Cancer 13</p> <p><b>Genes:</b> STXBP3/UNC-18C  (synonyms); HRSP12/Perchloric  Acid-Soluble Protein, 14.5-KD  (synonyms); USP6/TRE-2  (synonyms); REG1A; PSPN;  MSMB/PSP57/PSP/MSPB/IGBF/  PRPS/PSP-94/PN44/MSP/RP11-  481A12.1 (synonyms)</p> <p><b>Proteins:</b> MUNC18C; Platelet  SEC1; UK114; Parathyroid  Secretory Protein/CGA  (synonyms); UNC18, C.</p>	10835.0	-	-	-	0.01373	-

<p>ELEGANS, HOMOLOG OF, 3; Pancreatic Stone Protein (PSP)/Lithostathine-1-alpha islet cells regeneration factor (ICRF)/ islet of Langerhans regenerating protein (REG) (synonyms); BPIFA2/C20ORF70/SPLUNC2/B A49G10.1 (synonyms); P19</p> <p><b>Drugs/Compounds:</b> Tideglusib; Tolfenamic Acid; TPI-287; 4-BENZYL-2-(A-NAPHTYL)-1,2, 4-THIADIAZOLIDINE-3,5-DIONE ; Chromostatin; Catestatin; Pancreastatin; Phenolsulfonphthalein/Phenol Red (synonyms); ASN120290; AZP-2006 DISULFATE; ABBV-8E12; MK-8719; TPI-287; BMS-986168; MCD-386CR; MNI-958; 5-(3-ETHYL-1,2,4-OXADIAZOL- 5-YL)-1,4,5,6-TETRAHYDROPY RIMIDINE HYDROCHLORIDE; ANTI-ETAU HUMANIZED IGG4 MONOCLONAL ANTIBODY; COMPETITIVE AND REVERSIBLE SMALL MOLECULE INHIBITOR OF THE O-LINKED-B-N-ACETYLGLUCO SAMINIDASE ENZYME, N-(3-(4-(3-(DIISOBUTYLAMINO) PROPYL)PIPERAZIN-1-YL)PRO PYL)-1H-BENZO[D]IMIDAZOL-2 -AMINE DISULPHATE SALT; 5B-20-EPOXY-1B,2A,4A,7B,9A,1 0A,13A-HEPTAHYDROXY-4,10- DIACETATE-2-BENZOATE-(1S)- 7,9-ACROLEIN ACETAL-11(15-1)-ABEOTAXAN E; (2'R,3'S)-2'-HYDROXY-N-CARB OXY-3'-AMINO-5'-METHYL-HEX</p>						
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ANOIC,N-TERT-BUTYL ESTER, 13 ESTER						
<b>Diseases/Conditions:</b> Parkinsonism; Perry Syndrome; Distal Hereditary Motor Neuropathy Type VIIB; Susceptibility to Amyotrophic Lateral Sclerosis (ALS)  <b>Gene:</b> FBXO7/FBX7/FBX (synonyms); DCTN1/P150(GLUED), DROSOPHILA, HOMOLOG OF  <b>Drug:</b> MPTP (causes permanent symptoms of Parkinson's Disease)	12833.0	-	-	-	0.013706	-
Speech Impairment	189539.0	-	-	-	0.008005	-
Reading Disability	128804.0	-	-	-	0.006867	-
Amnesic Aphasia; Anomic Aphasia	81384.0	-	-	-	0.006867	-
EIGENVECTOR CENTRALITY TOP NODES						
<b>Diseases/Conditions:</b> Parkinsonism; Perry Syndrome; Distal Hereditary Motor Neuropathy Type VIIB; Susceptibility to Amyotrophic Lateral Sclerosis (ALS)  <b>Gene:</b> FBXO7/FBX7/FBX (synonyms); DCTN1/P150(GLUED), DROSOPHILA, HOMOLOG OF  <b>Drug:</b> MPTP (causes permanent symptoms of Parkinson's Disease)	12833.0	-	-	-	-	1
Tremors	81523.0	-	-	-	-	0.49799

<b>Diseases/Conditions:</b> Frontotemporal Dementia; Semantic Dementia; Hereditary Dysphasic Disinhibition Dementia; Multiple System Tauopathy with Presenile Dementia; Primary Progressive Aphasia; Disinhibition-Dementia-Parkinson ism-Amyotrophy Complex; Wilhelmsen-Lynch Disease; Susceptibility to Late-Onset Parkinson Disease; Progresssive Supranuclear Palsy 1; Familial Alzheimer's Disease 3; MAPT-Related Disorders; Pallidopontonigral Degeneration; Cardiomyopathy, Dilated 1U; Neuronal Ceroid Lipofuscinosis 11  <b>Genes:</b> MAPT/FTDP-17/MTBT1 (synonyms); PSEN1/PS1/S182 (synonyms); GRN/GEP/GP88/PEPI/PGRN/CLN1 1/PCDGF (synonyms)  <b>Proteins:</b> Acrogranin; 88-KD Glycoprotein; Granulin; Progranulin; Epithelins; Proepithelin; PC Cell-Derived Growth Factor; Microtubule-Associated Protein Tau	11996.0	-	-	-	-	0.485211
Muscle Rigidity	206738.0	-	-	-	-	0.461473
Bradykinesia/Antiorthostatic Hypokinesias (Slow Movements)	206646.0	-	-	-	-	0.369923



**Table 7. Most influential nodes by centrality scores in modularity class 14 of mc\_GBPN, which contains 58 nodes.**

Top Nodes	Top Node IDs	Degree	Closeness	Betweenness	PageRank	Eigenvector
DEGREE CENTRALITY TOP NODES						
Abnormal Reflexes (both Hyperreflexia and Hyporeflexia)	98105.0	1880	-	-	-	-
Extensor Plantar Reflexes	170345.0	1699	-	-	-	-
<b>Diseases/Conditions:</b> Spastic Paraplegia 10, Autosomal Dominant; Hereditary Spastic Paraplegia Caused by Mutation in KIF5A; Susceptibility to Amyotrophic Lateral Sclerosis 25; Neonatal Myoclonus, Intractable  <b>Gene:</b> KIF5A/MY050/NKHC/D12S1889 (synonyms)  <b>Protein:</b> Kinesin, Heavy Chain, Neuron-Specific	13849.0	1599	-	-	-	-
Autosomal Dominant Inheritance	140310.0	957	-	-	-	-
<b>Disease/Conditions:</b> Trigeminal Neuralgia; Epileptiform Neuralgias; Syndrome of Paroxysmal Facial Pain  <b>Drugs/Treatments:</b> L-Baclofen; Raxatrigine; Dehydrated Alcohol Injection; Intranasal Carbon Dioxide, HYDROCHLORIDE (5R)-5-(4-([2-FLUOROPHENYL)METHYL]OX	11341.0	489	-	-	-	-

Y}PHENYL)-L-PROLINAMIDE, HYDROCHLORIDE						
CLOSENESS CENTRALITY TOP NODES						
<b>Diseases/Conditions:</b> Spastic Paraplegia 10, Autosomal Dominant; Hereditary Spastic Paraplegia Caused by Mutation in KIF5A; Susceptibility to Amyotrophic Lateral Sclerosis 25; Neonatal Myoclonus, Intractable  <b>Gene:</b> KIF5A/MY050/NKHC/D12S1889 (synonyms)  <b>Protein:</b> Kinesin, Heavy Chain, Neuron-Specific	13849.0	-	0.564356	-	-	-
Autosomal Dominant Inheritance	140310.0	-	0.542857	-	-	-
Hereditary Motor and Sensory Neuropathy Type 5; Hereditary Spastic Paraplegia	13020.0	-	0.463415	-	-	-
Abnormal Reflexes (both Hyperreflexia and Hyporeflexia)	98105.0	-	0.448819	-	-	-
Extensor Plantar Reflexes	170345.0	-	0.445312	-	-	-
BETWEENNESS CENTRALITY TOP NODES						
<b>Diseases/Conditions:</b> Spastic Paraplegia 10, Autosomal Dominant; Hereditary Spastic Paraplegia Caused by Mutation in KIF5A; Susceptibility to Amyotrophic Lateral Sclerosis 25; Neonatal Myoclonus, Intractable	13849.0	-	-	2003.822735	-	-

<b>Gene:</b> KIF5A/MY050/NKHC/D12S1889 (synonyms)  <b>Protein:</b> Kinesin, Heavy Chain, Neuron-Specific						
Autosomal Dominant Inheritance	140310.0	-	-	1485.028158	-	-
<b>Disease/Conditions:</b> Trigeminal Neuralgia; Epileptiform Neuralgias; Syndrome of Paroxysmal Facial Pain  <b>Drugs/Treatments:</b> L-Baclofen; Raxatrigine; Dehydrated Alcohol Injection; Intranasal Carbon Dioxide, HYDROCHLORIDE[(5R)-5-(4-{{[2 -FLUOROPHENYL)METHYL]OX Y}PHENYL)-L-PROLINAMIDE, HYDROCHLORIDE	11341.0	-	-	921	-	-
Morgagni-Stewart-Morel Syndrome	12359.0	-	-	442.463645	-	-
Congenital Nervous System Disorder	95831.0	-	-	168	-	-
PAGERANK TOP NODES						
Congenital Nervous System Disorder	95831.0	-	-	-	0.015793	-
<b>Diseases/Conditions:</b> Spastic Paraplegia 10, Autosomal Dominant; Hereditary Spastic Paraplegia Caused by Mutation in KIF5A; Susceptibility to Amyotrophic Lateral Sclerosis 25; Neonatal Myoclonus, Intractable	13849.0	-	-	-	0.014052	-

<b>Gene:</b> KIF5A/MY050/NKHC/D12S1889 (synonyms)  <b>Protein:</b> Kinesin, Heavy Chain, Neuron-Specific						
Morgagni-Stewart-Morel Syndrome	12359.0	-	-	-	0.007619	-
KIF5A Gene	5343604	-	-	-	0.006849	-
Autosomal Dominant Inheritance	140310.0	-	-	-	0.005734	-
EIGENVECTOR CENTRALITY TOP NODES						
Abnormal Reflexes (both Hyperreflexia and Hyporeflexia)	98105.0	-	-	-	-	1
Extensor Plantar Reflexes	170345.0	-	-	-	-	0.94848
Autosomal Dominant Inheritance	140310.0	-	-	-	-	0.59795
Pyramidal Tract Signs	149311.0	-	-	-	-	0.318759
<b>Diseases/Conditions:</b> Spastic Paraplegia 10, Autosomal Dominant; Hereditary Spastic Paraplegia Caused by Mutation in KIF5A; Susceptibility to Amyotrophic Lateral Sclerosis 25; Neonatal Myoclonus, Intractable  <b>Gene:</b> KIF5A/MY050/NKHC/D12S1889 (synonyms)  <b>Protein:</b> Kinesin, Heavy Chain, Neuron-Specific	13849.0	-	-	-	-	0.249164

**Table 8. Most influential nodes by centrality scores in modularity class 22 of mc\_GBPN, which contains 65 nodes.**

Top Nodes	Top Node IDs	Degree	Closeness	Betweenness	PageRank	Eigenvector
DEGREE CENTRALITY TOP NODES						
<b>Diseases/Conditions:</b> Ferritin-related Neurodegeneration; NBIA3  <b>Gene:</b> FTL	16872.0	2713	-	-	-	-
<b>Diseases/Conditions:</b> Hypomyelinating Leukodystrophy 6  <b>Genes:</b> TUBB4A; TUBB5	15292.0	1109	-	-	-	-
Difficulty Swallowing	132121.0	429	-	-	-	-
Dysphonia	185786.0	270	-	-	-	-
Generalized Dystonia; Dystonia 12; Ziehen-Oppenheim Disease; Torsion Dystonia	43481.0	260	-	-	-	-
CLOSENESS CENTRALITY TOP NODES						
<b>Diseases/Conditions:</b> Ferritin-related Neurodegeneration; NBIA3  <b>Gene:</b> FTL	16872.0	-	0.615385	-	-	-
Difficulty Swallowing	132121.0	-	0.507937	-	-	-
Dysphonia	185786.0	-	0.507937	-	-	-
<b>Diseases/Conditions:</b> Hypomyelinating Leukodystrophy 6  <b>Genes:</b> TUBB4A; TUBB5	15292.0	-	0.441379	-	-	-
<b>Disease/Condition:</b> Eyelid	28744.0	-	0.441379	-	-	-

<p>Spasms; Susceptibility to Attention Deficit-Hyperactivity Disorder (ADHD)</p> <p><b>Dopamine Receptors:</b> D1B; D5</p>						
BETWEENNESS CENTRALITY TOP NODES						
<p><b>Diseases/Conditions:</b> Ferritin-related Neurodegeneration; NBIA3</p> <p><b>Gene:</b> FTL</p>	16872.0	-	-	3039.371275	-	-
<p><b>Diseases/Conditions:</b> Hypomyelinating Leukodystrophy 6</p> <p><b>Genes:</b> TUBB4A; TUBB5</p>	15292.0	-	-	1618.628725	-	-
Difficulty Swallowing	132121.0	-	-	967.106962	-	-
Dysphonia	185786.0	-	-	349.994891	-	-
<p><b>Disease/Condition:</b> Eyelid Spasms; Susceptibility to Attention Deficit-Hyperactivity Disorder (ADHD)</p> <p><b>Dopamine Receptors:</b> D1B; D5</p>	28744.0	-	-	95.898148	-	-
PAGERANK TOP NODES						
<p><b>Diseases/Conditions:</b> Ferritin-related Neurodegeneration; NBIA3</p> <p><b>Gene:</b> FTL</p>	16872.0	-	-	-	0.012261	-
<p><b>Diseases/Conditions:</b> Hypomyelinating Leukodystrophy 6</p> <p><b>Genes:</b> TUBB4A; TUBB5</p>	15292.0	-	-	-	0.007803	-
<b>Diseases/Conditions:</b>	5351118.0	-	-	-	0.003964	-

Hyperferritinemia With or Without Cataract (HRFTC)  <b>Gene:</b> FTL						
<b>Diseases/Conditions:</b> Dystonia 4 (Hereditary Whispering Dystonia)  <b>Genes:</b> TUBB4A	5355806	-	-	-	0.003788	-
<b>Disease/Condition:</b> Neuroaxonal Dystrophy; Neurodegeneration with Brain Iron Accumulation (NBIA, PLA2G6-related; NBIA2A)  <b>Gene:</b> PLA2G6	34398.0	-	-	-	0.003002	-
EIGENVECTOR CENTRALITY TOP NODES						
<b>Diseases/Conditions:</b> Ferritin-related Neurodegeneration; NBIA3  <b>Gene:</b> FTL	16872.0	-	-	-	-	1
Difficulty Swallowing	132121.0	-	-	-	-	0.538345
<b>Disease/Condition:</b> Eyelid Spasms; Susceptibility to Attention Deficit-Hyperactivity Disorder (ADHD)  <b>Dopamine Receptors:</b> D1B; D5	28744.0	-	-	-	-	0.425709
Mood Swings	94864.0	-	-	-	-	0.38744
Dysphonia	185786.0	-	-	-	-	0.379988

**Table 9. Most influential nodes by centrality scores in modularity class 16 of mc\_GBPN, which contains 61 nodes.**

Top Nodes	Top Node IDs	Degree	Closeness	Betweenness	PageRank	Eigenvector
DEGREE CENTRALITY TOP NODES						
<b>Diseases/Conditions:</b> Rett Syndrome (Cerebroatrophic Hyperammonemia); Severe Neonatal Encephalopathy due to MECP2 Mutation; MRXS13; MECP2-related Disorders  <b>Gene:</b> MECP2/PPMX/RTS/RTT (synonyms)  <b>Protein:</b> Methyl-CPG-Binding Protein 2	6256.0	1436	-	-	-	-
Methyl-CpG-Binding Protein 2 (MECP2)	5390213	164	-	-	-	-
<b>Disease/Condition:</b> X-Linked Syndromic Intellectual Development Disorder 13 (MRXS13)  <b>Gene:</b> MECP2	5370370	160	-	-	-	-
<b>Disease/Condition:</b> Angelman Syndrome  <b>Gene:</b> UBE3A	5384905	160	-	-	-	-
MECP2 Gene	5391315	158	-	-	-	-
CLOSENESS CENTRALITY TOP NODES						
<b>Diseases/Conditions:</b> Rett Syndrome (Cerebroatrophic	6256.0	-	1	-	-	-





PAGERANK TOP NODES						
<b>Diseases/Conditions:</b> Rett Syndrome (Cerebroatrophic Hyperammonemia); Severe Neonatal Encephalopathy due to MECP2 Mutation; MRXS13; MECP2-related Disorders  <b>Gene:</b> MECP2/PPMX/RTS/RTT (synonyms)  <b>Protein:</b> Methyl-CPG-Binding Protein 2	6256.0	-	-	-	0.015366	-
Neonatal Severe Encephalopathy Due to MECP2 Mutations	2597382	-	-	-	0.011456	-
Rett Syndrome (Atypical; Zappella Variant; Preserved Speech Variant)	2598816	-	-	-	0.009846	-
<b>Disease/Condition:</b> Rett Syndrome, Congenital Variant  <b>Gene:</b> FOXP1	2599785	-	-	-	0.009176	-
MECP2 Gene	2599832	-	-	-	0.008854	-
EIGENVECTOR CENTRALITY TOP NODES						
<b>Diseases/Conditions:</b> Rett Syndrome (Cerebroatrophic Hyperammonemia); Severe Neonatal Encephalopathy due to MECP2 Mutation; MRXS13; MECP2-related Disorders  <b>Gene:</b> MECP2/PPMX/RTS/RTT (synonyms)  <b>Protein:</b> Methyl-CPG-Binding Protein 2	6256.0	-	-	-	-	1
Neonatal Severe	2597382	-	-	-	-	0.888547

Encephalopathy Due to MECP2 Mutations						
Rett Syndrome (Atypical; Zappella Variant; Preserved Speech Variant)	2598816	-	-	-	-	0.846917
MECP2 Gene	2599832	-	-	-	-	0.815885
X-Linked Dominant Inheritance	143257	-	-	-	-	0.651789

**Table 10. Most influential nodes by centrality scores in modularity class 2 of mc\_GBPN, which contains 52 nodes.**

Top Nodes	Top Node IDs	Degree	Closeness	Betweenness	PageRank	Eigenvector
DEGREE CENTRALITY TOP NODES						
<b>Diseases/Conditions:</b> Myoclonic Dystonia/Dystonia 11; Alcohol-Responsive Dystonia; Drug-Induced Myoclonus; Myoclonus-Dystonia Syndrome caused by mutation in SGCE; Palatal/Oculopalatal Myoclonus; Upper/Lower Extremity Myoclonus; Eyelid Myoclonus; Intention Myoclonus; Nocturnal/Sleep Myoclonus; Segmental Myoclonus; Myoclonus Simplex; Polymyoclonus  <b>Genes:</b> SGCE/ESG (synonyms)	10251.0	1840	-	-	-	-
Obsessive Compulsive Disorder	22650.0	911	-	-	-	-
Clinical Depression	21304.0	473	-	-	-	-

Anxiety	169845.0	462	-	-	-	-
Agoraphobia	35849.0	183	-	-	-	-
CLOSENESS CENTRALITY TOP NODES						
<b>Diseases/Conditions:</b> Myoclonic Dystonia/Dystonia 11; Alcohol-Responsive Dystonia; Drug-Induced Myoclonus; Myoclonus-Dystonia Syndrome caused by mutation in SGCE; Palatal/Oculopalatal Myoclonus; Upper/Lower Extremity Myoclonus; Eyelid Myoclonus; Intention Myoclonus; Nocturnal/Sleep Myoclonus; Segmental Myoclonus; Myoclonus Simplex; Polymyoclonus  <b>Genes:</b> SGCE/ESG (synonyms)	10251.0	-	0.666667	-	-	-
Obsessive Compulsive Disorder	22650.0	-	0.541176	-	-	-
Agoraphobia	35849.0	-	0.479167	-	-	-
Anxiety	169845.0	-	0.474227	-	-	-
Clinical Depression	21304.0	-	0.469388	-	-	-
BETWEENNESS CENTRALITY TOP NODES						
<b>Diseases/Conditions:</b> Myoclonic Dystonia/Dystonia 11; Alcohol-Responsive Dystonia; Drug-Induced Myoclonus; Myoclonus-Dystonia Syndrome caused by mutation in SGCE; Palatal/Oculopalatal Myoclonus; Upper/Lower Extremity Myoclonus; Eyelid Myoclonus; Intention Myoclonus; Nocturnal/Sleep Myoclonus; Segmental Myoclonus;	10251.0	-	-	1414.957233	-	-

Myoclonus Simplex; Polymyoclonus  <b>Genes:</b> SGCE/ESG (synonyms)						
Obsessive Compulsive Disorder	22650.0	-	-	509.16536	-	-
Pediatric Autoimmune Neuropsychiatric Disorders Associated with Streptococcus Infections (PANDAS)	10546.0	-	-	405.93985	-	-
Agoraphobia	35849.0	-	-	121.892338	-	-
Clinical Depression	21304.0	-	-	49.044741	-	-
PAGERANK TOP NODES						
<b>Diseases/Conditions:</b> Myoclonic Dystonia/Dystonia 11; Alcohol-Responsive Dystonia; Drug-Induced Myoclonus; Myoclonus-Dystonia Syndrome caused by mutation in SGCE; Palatal/Oculopalatal Myoclonus; Upper/Lower Extremity Myoclonus; Eyelid Myoclonus; Intention Myoclonus; Nocturnal/Sleep Myoclonus; Segmental Myoclonus; Myoclonus Simplex; Polymyoclonus  <b>Genes:</b> SGCE/ESG (synonyms)	10251.0	-	-	-	0.015945	-
Agoraphobia	35849.0	-	-	-	0.013776	-
Abnormal Fear/Anxiety-Related Behavior	79360.0	-	-	-	0.008274	-
Obsessive Compulsive Disorder	22650.0	-	-	-	0.006439	-
Sarcoglycan, Epsilon	5337712	-	-	-	0.006352	-
EIGENVECTOR CENTRALITY TOP NODES						

<b>Diseases/Conditions:</b> Myoclonic Dystonia/Dystonia 11; Alcohol-Responsive Dystonia; Drug-Induced Myoclonus; Myoclonus-Dystonia Syndrome caused by mutation in SGCE; Palatal/Oculopalatal Myoclonus; Upper/Lower Extremity Myoclonus; Eyelid Myoclonus; Intention Myoclonus; Nocturnal/Sleep Myoclonus; Segmental Myoclonus; Myoclonus Simplex; Polymyoclonus  <b>Genes:</b> SGCE/ESG (synonyms)	10251.0	-	-	-	-	1
Obsessive Compulsive Disorder	22650.0	-	-	-	-	0.92378
Clinical Depression	21304.0	-	-	-	-	0.644809
Anxiety	169845.0	-	-	-	-	0.632267
Agoraphobia	35849.0	-	-	-	-	0.256571

**Table 11. Most influential nodes by centrality scores in modularity class 17 of mc\_GBPN, which contains 75 nodes.**

Top Nodes	Top Node IDs	Degree	Closeness	Betweenness	PageRank	Eigenvector
DEGREE CENTRALITY TOP NODES						
<b>Diseases/Conditions:</b> Cadasil Syndrome; Carasil Syndrome; IMF2; Brain Small Vessel Disease; Retinal Arteriolar Tortuosity; Infantile Hemiparesis; Age-related Macular Degeneration; COL4A1-related Familial Vascular Leukoencephalopathy	1748.0	2283	-	-	-	-

<b>Genes:</b> NOTCH3; COL4A1; HTRA1/PRSS11/ARMD7/CARA SIL/L56/ORF480 (synonyms)  <b>Drugs/Compounds:</b> Cerebrolysin (Peptide Fraction Derived from Porcine Brain Protein); Palm Tocotrienol Complex						
Cerebrovascular Disease; Anterior Choroidal Artery Infarction; Stroke; Apoplexy	35059.0	441	-	-	-	-
Abnormal Gait	98027.0	298	-	-	-	-
Lower Back Pain	166585.0	156	-	-	-	-
Leukoencephalopathy; CACH Syndromes; White Matter Diseases	81147.0	127	-	-	-	-
CLOSENESS CENTRALITY TOP NODES						
<b>Diseases/Conditions:</b> Cadasil Syndrome; Carasil Syndrome; IMF2; Brain Small Vessel Disease; Retinal Arteriolar Tortuosity; Infantile Hemiparesis; Age-related Macular Degeneration; COL4A1-related Familial Vascular Leukoencephalopathy  <b>Genes:</b> NOTCH3; COL4A1; HTRA1/PRSS11/ARMD7/CARA SIL/L56/ORF480 (synonyms)  <b>Drugs/Compounds:</b> Cerebrolysin (Peptide Fraction Derived from Porcine Brain Protein); Palm Tocotrienol Complex	1748.0	-	0.970588	-	-	-





<b>Diseases/Conditions:</b> Cadasil Syndrome; Carasil Syndrome; IMF2; Brain Small Vessel Disease; Retinal Arteriolar Tortuosity; Infantile Hemiparesis; Age-related Macular Degeneration; COL4A1-related Familial Vascular Leukoencephalopathy  <b>Genes:</b> NOTCH3; COL4A1; HTRA1/PRSS11/ARMD7/CARA SIL/L56/ORF480 (synonyms)  <b>Drugs/Compounds:</b> Cerebrolysin (Peptide Fraction Derived from Porcine Brain Protein); Palm Tocotrienol Complex	1748.0	-	-	-	0.027648	-
Cerebrovascular Disease; Anterior Choroidal Artery Infarction; Stroke; Apoplexy	35059.0	-	-	-	0.012185	-
NOTCH3 Gene	5384025	-	-	-	0.006859	-
HTRA1 Gene	5343992	-	-	-	0.005377	-
Abnormal Gait	98027.0	-	-	-	0.003655	-
EIGENVECTOR CENTRALITY TOP NODES						
<b>Diseases/Conditions:</b> Cadasil Syndrome; Carasil Syndrome; IMF2; Brain Small Vessel Disease; Retinal Arteriolar Tortuosity; Infantile Hemiparesis; Age-related Macular Degeneration; COL4A1-related Familial Vascular Leukoencephalopathy	1748.0	-	-	-	-	1

<b>Genes:</b> NOTCH3; COL4A1; HTRA1/PRSS11/ARMD7/CARA SIL/L56/ORF480 (synonyms)  <b>Drugs/Compounds:</b> Cerebrolysin (Peptide Fraction Derived from Porcine Brain Protein); Palm Tocotrienol Complex						
Cerebrovascular Disease; Anterior Choroidal Artery Infarction; Stroke; Apoplexy	35059.0	-	-	-	-	0.76495
Abnormal Gait	98027.0	-	-	-	-	0.487053
Lower Back Pain	166585.0	-	-	-	-	0.280835
Leukoencephalopathy; CACH Syndromes; White Matter Diseases	81147.0	-	-	-	-	0.224274