

	-log10(Binomial p value)
trans-synaptic signaling	209.02
chemical synaptic transmission	200.68
modulation of synaptic transmission	185.86
regulation of membrane potential	133.76
cell-cell signaling	129.54
synapse organization	124.90
glutamate receptor signaling pathway	119.95
regulation of postsynaptic membrane potential	95.03
chemical synaptic transmission, postsynaptic	93.17
synapse assembly	92.13
excitatory postsynaptic potential	87.58
ionotropic glutamate receptor signaling pathway	80.50
regulation of neurotransmitter levels	78.33
regulation of synaptic transmission, glutamatergic	75.27
neurological system process	75.16
synaptic vesicle cycle	74.94
neurotransmitter transport	71.62
regulation of synaptic plasticity	71.23
single-organism behavior	70.31
presynaptic process involved in chemical synaptic transmission	69.18
postsynaptic membrane assembly	67.74
neurotransmitter secretion	67.55
synaptic vesicle transport	66.77
vesicle-mediated transport in synapse	66.62
synaptic vesicle localization	66.55
membrane assembly	66.17
membrane biogenesis	65.89
postsynapse assembly	65.85
regulation of neuron projection development	65.53
system process	64.82
behavior	64.73
regulation of nervous system development	64.48
postsynaptic membrane organization	63.88
neuron-neuron synaptic transmission	62.50
ion transport	62.19
regulation of cell projection organization	61.63
regulation of synapse structure or activity	61.23
learning or memory	59.56
cellular localization	58.19
regulation of synapse organization	57.21
signal release	54.94
synaptic transmission, glutamatergic	54.23
cognition	53.85
ion transmembrane transport	53.65
regulation of neuron differentiation	53.42
positive regulation of synaptic transmission	53.31
regulation of neurogenesis	51.00
establishment of vesicle localization	50.26
synaptic membrane adhesion	49.80
vesicle localization	49.36
learning	49.19
positive regulation of nervous system development	49.03
regulation of ion transport	48.93
presynaptic membrane assembly	48.77
presynaptic membrane organization	46.31
regulation of cell development	43.93
modulation of excitatory postsynaptic potential	43.45
adenylate cyclase-inhibiting G-protein coupled glutamate receptor signaling pathway	43.11
synaptic vesicle recycling	41.81
synaptic vesicle endocytosis	41.78
G-protein coupled glutamate receptor signaling pathway	40.81
neuron cell-cell adhesion	40.77
transmembrane transport	40.68
regulation of synapse assembly	40.41
inorganic ion transmembrane transport	40.28
presynapse assembly	39.73
clathrin-dependent endocytosis	39.34
adenylate cyclase-inhibiting G-protein coupled receptor signaling pathway	39.23
single-organism membrane organization	38.78
adenylate cyclase-modulating G-protein coupled receptor signaling pathway	38.36
positive regulation of cellular component organization	37.88
regulation of ion transmembrane transport	37.87
regulation of cell morphogenesis	37.64
cell surface receptor signaling pathway involved in cell-cell signaling	37.03
single-organism cellular morphogenesis	36.88
cell-cell adhesion	36.76
G-protein coupled receptor signaling pathway, coupled to cyclic nucleotide second messenger	36.70
prepulse inhibition	36.58
membrane organization	36.57
regulation of transmembrane transport	36.47
establishment of localization in cell	35.07
regulation of dendrite morphogenesis	34.09
regulation of secretion by cell	33.88
G-protein coupled receptor signaling pathway	33.61
positive regulation of synapse assembly	33.57
cell-cell adhesion via plasma-membrane adhesion molecules	32.75
vocalization behavior	32.45
cation transport	32.08
synaptic vesicle exocytosis	32.00
negative regulation of cAMP biosynthetic process	31.77
negative regulation of cyclic nucleotide biosynthetic process	31.72
regulation of dendrite development	31.66
inorganic cation transmembrane transport	31.46
response to ethanol	31.31
starile response	31.04
regulation of cell morphogenesis involved in differentiation	30.77
establishment of organelle localization	30.79
receptor clustering	30.74
excitatory synapse assembly	30.70
regulation of secretion	30.36
regulation of neurotransmitter transport	30.15
positive regulation of neuron projection development	30.15
negative regulation of JAK-STAT cascade	30.15
negative regulation of purine nucleotide biosynthetic process	30.00
multi-organism behavior	29.94
negative regulation of cAMP metabolic process	29.80
negative regulation of cyclic nucleotide metabolic process	29.75
regulation of ion transmembrane transporter activity	29.69
regulation of cAMP biosynthetic process	29.41
organelle localization	29.34
cation transmembrane transport	29.27
regulation of neurotransmitter secretion	29.27
calcium ion regulated exocytosis	29.18
cell-cell junction organization	29.17
regulation of exocytosis	29.01
regulation of transporter activity	28.93
regulation of transmembrane transporter activity	28.58
regulation of vesicle-mediated transport	28.54
adherens junction organization	28.48
positive regulation of neuron differentiation	28.47
regulation of cyclic nucleotide biosynthetic process	28.44
metal ion transport	28.11
negative regulation of synaptic transmission	27.73
regulation of cation transmembrane transport	27.57
localization within membrane	27.53
cell junction organization	27.17
regulation of calcium ion-dependent exocytosis	26.89
response to alcohol	26.75
negative regulation of transport	26.67
negative regulation of secretion by cell	26.47
single-organism intracellular transport	26.31
regulation of neuronal synaptic plasticity	26.27
regulation of purine nucleotide biosynthetic process	26.24
regulation of nucleotide biosynthetic process	26.15
positive regulation of cell projection organization	25.77
regulation of cAMP metabolic process	25.53
regulation of long term synaptic depression	25.38
regulation of cyclase activity	25.33
regulation of purine nucleotide metabolic process	25.29
regulation of nucleotide metabolic process	24.89
glutamate catabolic process	24.87
positive regulation of excitatory postsynaptic potential	24.72
positive regulation of neurogenesis	24.69
negative regulation of purine nucleotide metabolic process	24.58
negative regulation of nucleotide metabolic process	24.50
calcium ion transmembrane transport	24.42
regulation of cation channel activity	24.20
calcium ion transport	24.17
protein localization to synapse	24.04
regulation of long-term synaptic potentiation	23.99
adult behavior	23.90
second-messenger-mediated signaling	23.81
regulation of cyclic nucleotide metabolic process	23.72
divalent metal ion transport	23.64
negative regulation of secretion	23.62
regulation of dendritic spine development	23.59
divalent inorganic cation transport	23.46
sensory perception of pain	23.10
receptor-mediated endocytosis	23.09
regulation of glutamate receptor signaling pathway	23.07
cellular calcium ion homeostasis	22.55
regulation of system process	22.55
gamma-aminobutyric acid signaling pathway	22.52
regulation of regulated secretory pathway	22.15
neuroligin clustering involved in postsynaptic membrane assembly	21.77
calcium ion homeostasis	21.44
neuromuscular junction development	21.38
positive regulation of cellular component biogenesis	21.32
divalent inorganic cation homeostasis	21.20
neuromuscular process	21.13
positive regulation of cell development	21.09
regulation of neurotransmitter receptor activity	20.75
cellular response to ammonium ion	20.73
cellular divalent inorganic cation homeostasis	20.72
cellular homeostasis	20.36
regulation of dendritic spine maintenance	20.29
regulation of dendritic spine morphogenesis	20.23
regulation of metal ion transport	20.18
negative regulation of phosphate metabolic process	20.09
negative regulation of phosphorus metabolic process	20.09
glutamate secretion	19.67
cellular cation homeostasis	19.59
cellular ion homeostasis	19.30
heterophilic cell-cell adhesion via plasma membrane cell adhesion molecules	19.19
calcium ion-regulated exocytosis of neurotransmitter	19.03
cellular metal ion homeostasis	19.01
regulation of long-term neuronal synaptic plasticity	18.99
cellular chemical homeostasis	18.95
regulation of amyloid precursor protein catabolic process	18.84
negative regulation of ion transport	18.46
negative regulation of amine transport	18.44
regulation of synapse maturation	18.26
cation homeostasis	18.08
inorganic ion homeostasis	17.89
positive regulation of dendrite development	17.83
single organismal cell-cell adhesion	17.80
action potential	17.53
metal ion homeostasis	17.50
regulation of beta-amyloid formation	17.39
regulation of cytosolic calcium ion concentration	17.36
regulation of blood circulation	17.27
cellular component maintenance	17.19
regulation of glutamate secretion	17.16
response to ammonium ion	16.80
calcium-mediated signaling	16.55
ion homeostasis	16.45
positive regulation of beta-amyloid formation	16.44
single organism cell adhesion	16.41
regulation of synaptic vesicle exocytosis	16.36
regulation of potassium ion transport	16.04
negative regulation of long-term synaptic potentiation	16.04
regulation of synaptic vesicle transport	15.97
postsynaptic density organization	15.94
regulation of muscle system process	15.91
positive regulation of long term synaptic depression	15.54
regulation of sodium ion transport	15.45
regulation of amine transport	15.14
dicarboxylic acid transport	14.89
positive regulation of synaptic vesicle clustering	14.86
regulation of receptor-mediated endocytosis	14.60
cerebellum development	14.54
regulation of xenogenesis	14.39
negative regulation of neurotransmitter transport	14.36
positive regulation of calcium ion-dependent exocytosis	14.33
positive regulation of dendrite morphogenesis	14.27
regulation of adenylyate cyclase activity	14.22
regulation of N-methyl-D-aspartate selective glutamate receptor activity	14.15
positive regulation of exocytosis	13.96
nitrogen compound transport	13.93
endocytosis	13.86
negative regulation of intracellular signal transduction	13.86
positive regulation of synapse maturation	13.80
memory	13.74
regulation of muscle contraction	13.69
cerebellar granule cell differentiation	13.65
regulation of endocytosis	13.61
regulation of neuron apoptotic process	13.60
cerebellum morphogenesis	13.49
metencephalon development	13.46
regulation of short-term neuronal synaptic plasticity	13.42
inorganic anion transport	13.39
regulation of lyase activity	13.33
regulation of heart contraction	13.22
locomotory behavior	13.16
regulation of striated muscle contraction	13.09
negative regulation of exocytosis	12.99
regulation of sodium ion transmembrane transport	12.82
cerebellar granular layer morphogenesis	12.85
negative regulation of cell projection organization	12.79
cerebellar granular layer development	12.71
behavioral response to ethanol	12.65
positive regulation of regulated secretory pathway	12.62
regulation of voltage-gated calcium channel activity	12.57
regulation of sodium ion transmembrane transporter activity	12.55
hindbrain morphogenesis	12.50
regulation of dentrite extension	12.46
regulation of skeletal muscle contraction	12.23
regulation of cardiac muscle contraction	12.20
chloride transmembrane transport	12.18
regulation of synaptic vesicle clustering	12.09
acid secretion	11.90
cerebellar cortex formation	11.87
negative regulation of neuron projection development	11.85
synaptic transmission, GABAergic	11.82
negative regulation of neurotransmitter secretion	11.82
positive regulation of neurotransmitter transport	11.77
gliogenesis	11.70
regulation of dendrite transport	11.65
response to beta-amyloid	11.59
positive regulation of dendritic spine development	11.57
response to histamine	11.56
multicellular organismal signaling	11.54
regulation of protein tyrosine kinase activity	11.52
anion transport	11.44
long-term synaptic potentiation	11.37
ovarian follicle development	11.30
protein localization to membrane	11.23
negative regulation of production of miRNAs involved in gene silencing by miRNA	11.05
hindbrain development	10.92
regulation of receptor internalization	10.90
dense core granule exocytosis	10.89
amino acid transport	10.85
regulation of calcium ion transmembrane transport	10.77
positive regulation of protein tyrosine kinase activity	10.73
cell differentiation in hindbrain	10.69
positive regulation of dendrite extension	10.65
phospholipase C-activating G-protein coupled receptor signaling pathway	10.63
protein oligomerization	10.58
cardiac conduction	10.53
positive regulation of cytosolic calcium ion concentration	10.50
muscle cell differentiation	10.43
positive regulation of receptor-mediated endocytosis	10.36
cellular response to histamine	10.33
regulation of growth hormone secretion	10.31
inorganic anion transmembrane transport	10.21
cellular response to beta-amyloid	10.20
potassium ion transmembrane transport	10.18
regulation of filopodium assembly	10.16
ephrin receptor signaling pathway	10.07
cerebellar cortex morphogenesis	9.96
cardiac muscle cell action potential	9.93
modulation by host of viral genome replication	9.91
negative regulation of adenylyate cyclase activity	9.77
dendrite development	9.76
negative regulation of cyclase activity	9.73
positive regulation of neurotransmitter secretion	9.44
positive regulation of endocytosis	9.36
regulation of calcium ion transmembrane transporter activity	9.30
positive regulation of long-term synaptic potentiation	9.30
cyclic-nucleotide-mediated signaling	9.26
synaptic vesicle priming	9.25
negative regulation of synaptic transmission, glutamatergic	9.20
regulation of neuron death	9.08
presynaptic dense core vesicle exocytosis	9.08
ovulation cycle	8.99
potassium ion transport	8.95
regulation of calcium ion transport	8.92
receptor localization to synapse	8.86
membrane fusion	8.69
glial cell migration	8.68
negative regulation of lyase activity	8.66
positive regulation of synaptic vesicle exocytosis	8.63
neuron projection maintenance	8.46
cardiac muscle contraction	8.43
ammonium transport	8.35
positive regulation of synaptic vesicle transport	8.34
synaptic vesicle fusion	8.22
synaptic transmission, cholinergic	8.21
regulation of peptide hormone secretion	8.16
negative regulation of voltage-gated calcium channel activity	8.14
neuropeptide signaling pathway	8.12
organelle membrane fusion	8.08
positive regulation of ion transport	8.07
regulation of behavior	8.06
calcium ion transport into cytosol	8.05
visual learning	8.05
cellular response to inorganic substance	8.04
regulation of catecholamine secretion	8.03
regulation of peptide secretion	8.00
negative regulation of receptor internalization	7.97
regulation of cardiac muscle contraction by regulation of the release of sequestered calcium ion	7.88
regulation of peptide transport	7.88
regulation of alpha-amino-3-hydroxy-5-methyl-4-isoxazole propionate selective glutamate receptor activity	7.85
regulation of potassium ion transmembrane transport	7.74
membrane depolarization during cardiac muscle cell action potential	7.74
positive regulation of filopodium assembly	7.73
calcium ion import	7.72
regulation of calcium ion transport	7.61
adenylate cyclase-inhibiting G-protein coupled acetylcholine receptor signaling pathway	7.53
regulation of action potential	7.50
negative regulation of mitochondrial fusion	7.50
modulation of age-related behavioral decline	7.48
phospholipase C-activating G-protein coupled acetylcholine receptor signaling pathway	7.47
ovulation cycle process	7.31
positive regulation of inhibitory postsynaptic potential	7.27
negative regulation of catecholamine secretion	7.09
cytosolic calcium ion transport	7.09
regulation of calcium ion transport into cytosol	7.03
relaxation of cardiac muscle	7.01
visual behavior	6.99
cAMP-mediated signaling	6.98
positive regulation of cation transmembrane transport	6.96
multicellular organismal response to stress	6.87
smooth endoplasmic reticulum calcium ion homeostasis	6.85
brain morphogenesis	6.85
relaxation of muscle	6.79
calcium ion transmembrane import into cytosol	6.75
antral ovarian follicle growth	6.70
heart contraction	6.68
regulation of cardiac muscle contraction by calcium ion signaling	6.65
vesicle organization	6.64
response to light stimulus	6.63
negative regulation of cation channel activity	6.60
negative regulation of ion transmembrane transporter activity	6.54
regulation of dopamine secretion	6.54
anion transmembrane transport	6.54
regulation of release of sequestered calcium ion into cytosol by sarcoplasmic reticulum	6.46
regulation of heart rate	6.40
acetylcholine receptor signaling pathway	6.34
G-protein coupled acetylcholine receptor signaling pathway	6.31
negative regulation of transporter activity	6.26
regulation of release of sequestered calcium ion into cytosol	6.01
negative regulation of protein secretion	6.01
single-organism membrane fusion	6.00
positive regulation of ion transmembrane transport	5.88
heart process	5.97
trans-synaptic signaling by trans-synaptic complex	5.83
regulation of synapse structural plasticity	5.82
associative learning	5.82
regulation of sequestering of calcium ion	5.81
catecholamine transport	5.78
negative regulation of cytosolic calcium ion concentration	5.76
trans-synaptic signaling, modulating synaptic transmission	5.76
positive regulation of transmembrane transport	5.66
regulation of ryanodine-sensitive calcium-release channel activity	5.55
receptor metabolic process	5.51
regulation of calcium-mediated signaling	5.51
regulation of neurological system process	5.49
response to cocaine	5.49
monoamine transport	5.47
cellular response to metal ion	5.40
negative regulation of cell morphogenesis involved in differentiation	5.38
regulation of synaptic transmission, GABAergic	5.36
female gonad development	5.36
regulation of protein localization to membrane	5.29
negative regulation of calcium ion transmembrane transporter activity	5.19
regulation of cell communication by electrical coupling	5.18
regulation of cardiac muscle cell contraction	5.17
synaptic transmission, dopaminergic	5.13
retina development in camera-type eye	5.11
regulation of anion channel activity	5.02
regulation of actin filament-based movement	4.99
neural retina development	4.98
negative regulation of neuron apoptotic process	4.97
regulation of mitochondrial fusion	4.88
regulation of cardiac conduction	4.85
cellular response to alkaloid	4.82
cellular response to drug	4.79
astrocyte differentiation	4.78
dopamine metabolic process	4.72
negative regulation of calcium ion transmembrane transport	4.70
regulation of protein targeting to membrane	4.69
cellular response to toxic substance	4.64
cellular response to calcium ion	4.62
adult locomotory behavior	4.62
positive regulation of protein localization to synapse	4.62
negative regulation of cation transmembrane transport	4.50
negative regulation of ion transmembrane transport	4.45
cellular response to UV	4.41
neurotransmitter biosynthetic process	4.36
regulation of protein localization to synapse	4.33
positive regulation of protein targeting to membrane	4.29
receptor internalization	4.21
regulation of epidermal growth factor-activated receptor activity	4.21
cardiac muscle cell contraction	4.18
negative regulation of axonogenesis	4.17
positive regulation of dendritic spine morphogenesis	4.08
negative regulation of transmembrane transport	4.02
regulation of heart rate by cardiac conduction	3.89
regulation of neurotransmitter release	3.87
regulation of postsynaptic cytosolic calcium ion concentration	3.78
dendrite morphogenesis	3.72
response to calcium ion	3.64
cell communication involved in differentiation	3.60
negative regulation of dendritic spine maintenance	3.40
negative regulation of intraluminal vesicle formation	3.40
long-term memory	3.29
catecholamine metabolic process	3.14
astrocyte differentiation	3.10
trans-synaptic signaling by endocannabinoid, modulating synaptic transmission	3.08
response to magnesium ion	3.05
negative regulation of peptide hormone secretion	3.03
regulation of vasoconstriction	3.02
negative regulation of peptide secretion	3.01
cellular response to cAMP	2.97
behavioral response to cocaine	2.96
response to catecholamine	2.95
dopamine transport	2.94
cellular response to macrophage colony-stimulating factor stimulus	2.79
negative regulation of spontaneous neurotransmitter secretion	2.76
neurotransmitter loading into synaptic vesicles	2.70
regulation of synaptic transmission, dopaminergic	2.67
negative regulation of hormone secretion	2.58
regulation of relaxation of muscle	2.53
cellular response to hypoxia	2.53
regulation of calcium ion transmembrane transport via high voltage-gated calcium channel	2.50
regulation of relaxation of cardiac muscle	2.35