

Names total elements

Acute M Protract F Protract M 1 positive regulation of protein
metabolic process

Acute F Protract F Protract M 170 head development
regulation of locomotion
ribonucleoside triphosphate metabolic process
negative regulation of cellular component organization
energy derivation by oxidation of organic compounds
peptide biosynthetic process
supramolecular fiber organization
cell junction organization
cell morphogenesis
actin filament-based process
purine ribonucleotide biosynthetic process
regulation of postsynaptic membrane neurotransmitter

receptor levels

protein localization to cell periphery
actin filament organization
regulation of transport
protein folding
regulation of cell motility
membrane organization
neuron differentiation
vesicle-mediated transport in synapse
protein localization to membrane
positive regulation of protein transport
neuron development
cell division
response to abiotic stimulus
nucleoside phosphate metabolic process
peptidyl-serine modification
cytoskeleton organization
small molecule metabolic process
cell adhesion
regulation of secretion
organophosphate metabolic process
inorganic cation transmembrane transport
establishment of protein localization
establishment or maintenance of cell polarity
negative regulation of protein metabolic process
organelle localization
positive regulation of transport
cell junction assembly
regulation of protein transport
nucleoside phosphate biosynthetic process
macromolecule catabolic process
plasma membrane bounded cell projection organization
cell part morphogenesis
generation of precursor metabolites and energy
cell morphogenesis involved in differentiation

regulation of vesicle-mediated transport
 nucleoside triphosphate biosynthetic process
 peptidyl-serine phosphorylation
 ribonucleotide metabolic process
 purine nucleoside triphosphate biosynthetic process
 regulation of establishment of protein localization
 plasma membrane bounded cell projection morphogenesis
 locomotion
 axon development
 generation of neurons
 cellular catabolic process
 anterograde trans-synaptic signaling
 cell projection organization
 regulation of plasma membrane bounded cell projection

organization

response to inorganic substance
 ribonucleotide biosynthetic process
 carbohydrate derivative biosynthetic process
 postsynapse organization
 cellular homeostasis
 proton motive force-driven ATP synthesis
 actin cytoskeleton organization
 organic acid metabolic process
 secretion
 positive regulation of cellular component biogenesis
 positive regulation of cell projection organization
 modulation of chemical synaptic transmission
 regulation of trans-synaptic signaling
 purine ribonucleotide metabolic process
 neuron projection development
 ATP metabolic process
 regulation of catalytic activity
 nucleotide biosynthetic process
 regulation of anatomical structure morphogenesis
 ribose phosphate biosynthetic process
 brain development
 positive regulation of cellular component organization
 organonitrogen compound biosynthetic process
 synaptic signaling
 signal release
 cell-cell signaling
 nucleobase-containing small molecule metabolic process
 monoatomic cation transmembrane transport
 nucleotide metabolic process
 respiratory electron transport chain
 regulation of protein localization to membrane
 protein transport
 translation
 mitochondrion organization
 regulation of secretion by cell

monoatomic ion transport
phosphorylation
cell motility
organonitrogen compound catabolic process
response to endogenous stimulus
cell projection morphogenesis
regulation of cell morphogenesis
synapse assembly
vesicle-mediated transport
regulation of cell projection organization
peptide metabolic process
secretion by cell
nucleoside triphosphate metabolic process
cell-substrate adhesion
purine-containing compound metabolic process
response to organonitrogen compound
protein localization to plasma membrane
purine nucleotide biosynthetic process
purine ribonucleoside triphosphate metabolic process
regulation of cellular component size
protein polymerization
mitochondrial respiratory chain complex assembly
chemical synaptic transmission
regulation of cell migration
regulation of protein localization
regulation of cellular localization
positive regulation of molecular function
intracellular transport
intracellular protein transport
cell migration
regulation of organelle organization
monoatomic ion transmembrane transport
cell-matrix adhesion
neuron projection morphogenesis
regulation of monoatomic ion transport
purine nucleoside triphosphate metabolic process
regulation of neuron projection development
cellular component disassembly
positive regulation of catalytic activity
oxoacid metabolic process
regulation of neurogenesis
aerobic respiration
cell morphogenesis involved in neuron differentiation
purine-containing compound biosynthetic process
carbohydrate derivative metabolic process
inorganic ion transmembrane transport
central nervous system development
ribonucleoside triphosphate biosynthetic process
amide metabolic process
purine ribonucleoside triphosphate biosynthetic

process

regulation of protein modification process
carboxylic acid metabolic process
synapse organization
axonogenesis
neurogenesis
organophosphate biosynthetic process
ribose phosphate metabolic process
small molecule biosynthetic process
response to nitrogen compound
synaptic vesicle cycle
protein catabolic process
positive regulation of establishment of protein

localization

purine nucleotide metabolic process
export from cell
oxidative phosphorylation
cellular component morphogenesis
transmembrane transport
electron transport chain
positive regulation of protein localization
protein-containing complex localization
trans-synaptic signaling
localization within membrane
regulation of anatomical structure size
cellular respiration
cellular response to oxygen-containing compound

Protract F Protract M 92 regulation of metal ion transport
regulation of proteolysis involved in protein

catabolic process

amino acid biosynthetic process
intracellular monoatomic cation homeostasis
intracellular chemical homeostasis
positive regulation of monoatomic ion transport
reactive nitrogen species metabolic process
negative regulation of transmembrane transport
fatty acid metabolic process
monoamine transport
regulation of ubiquitin-dependent protein catabolic

process

cellular ketone metabolic process
glial cell differentiation
regulation of transmembrane transport
proteolysis involved in protein catabolic process
positive regulation of protein localization to

membrane

chaperone-mediated protein complex assembly
modification-dependent protein catabolic process
regulation of intracellular protein transport
regulation of proteasomal ubiquitin-dependent protein

catabolic process

- positive regulation of transmembrane transport
- regulation of kinase activity
- cell projection assembly
- actin filament bundle organization
- carboxylic acid biosynthetic process
- neuron cellular homeostasis
- negative regulation of cell projection organization
- protein phosphorylation
- negative regulation of locomotion
- monoatomic cation homeostasis
- homeostatic process
- positive regulation of DNA metabolic process
- regulation of phosphorylation
- proteasome-mediated ubiquitin-dependent protein

catabolic process

- protein localization to cell junction
- intracellular calcium ion homeostasis
- methylglyoxal metabolic process
- positive regulation of multicellular organismal

process

- positive regulation of protein modification process
- ubiquitin-dependent protein catabolic process
- cell-cell adhesion
- regulation of nitric oxide metabolic process
- monocarboxylic acid metabolic process
- gliogenesis
- regulation of phosphate metabolic process
- nitric oxide metabolic process
- regulation of sodium ion transmembrane transport
- regulation of sodium ion transport
- negative regulation of cell motility
- negative regulation of cell death
- inorganic ion homeostasis
- catecholamine transport
- positive regulation of protein-containing complex

assembly

- regulation of protein phosphorylation
- response to nutrient
- positive regulation of protein binding
- central nervous system neuron development
- regulation of protein stability
- regulation of transferase activity
- protein stabilization
- protein localization to organelle
- response to organic cyclic compound
- forebrain development
- calcium ion homeostasis
- positive regulation of intracellular transport
- positive regulation of binding

regulation of protein catabolic process
 monoatomic ion homeostasis
 regulation of growth
 positive regulation of developmental process
 regulation of protein localization to cell periphery
 proteasomal protein catabolic process
 regulation of binding
 regulation of monoatomic ion transmembrane transport
 regulation of phosphorus metabolic process
 regulation of protein localization to plasma membrane
 regulation of catabolic process
 regulation of cellular response to stress
 regulation of proteasomal protein catabolic process
 growth
 regulation of protein binding
 modification-dependent macromolecule catabolic process
 chemical homeostasis
 organic acid biosynthetic process
 actin filament bundle assembly
 positive regulation of intracellular protein transport
 regulation of cell size
 intracellular monoatomic ion homeostasis
 proteolysis
 plasma membrane bounded cell projection assembly
 developmental growth
 regulation of monoatomic cation transmembrane

transport

Acute F Protract M 121 establishment of protein localization
 to membrane

regulation of synapse structure or activity
 actin filament polymerization
 positive regulation of secretion by cell
 response to oxidative stress
 dendrite development
 neuron migration
 dendritic spine development
 neuromuscular process
 regulation of nervous system development
 receptor-mediated endocytosis
 cytokinesis
 establishment of vesicle localization
 behavior
 regulation of hydrolase activity
 NADH dehydrogenase complex assembly
 regulation of GTPase activity
 postsynaptic neurotransmitter receptor internalization
 neurotransmitter secretion
 developmental cell growth
 regulation of receptor-mediated endocytosis
 cognition

organization

regulation of supramolecular fiber organization
positive regulation of supramolecular fiber
vesicle docking involved in exocytosis
learning or memory
amide transport
learning
locomotory behavior
vesicle docking
regulation of cytoskeleton organization
regulation of cellular component biogenesis
cell growth
organelle assembly
dephosphorylation
regulation of cell shape
nucleus localization
regulation of protein-containing complex assembly
postsynaptic density organization
regulation of cell death
negative regulation of signal transduction
axo-dendritic transport
positive regulation of cell growth
establishment of protein localization to mitochondrion
lipid metabolic process
phenol-containing compound metabolic process
cytoplasmic translation
Ras protein signal transduction
cell-substrate junction organization
regulation of intracellular signal transduction
neuron projection extension
regulation of actin filament length
negative regulation of response to stimulus
membrane docking
Golgi to plasma membrane transport
vesicle localization
inorganic anion transmembrane transport
synaptic vesicle endocytosis
cellular response to nitrogen compound
positive regulation of hydrolase activity
receptor internalization
nuclear migration
Golgi vesicle transport
amine transport
cytoskeleton-dependent intracellular transport
actin polymerization or depolymerization
calcium-ion regulated exocytosis
organelle localization by membrane tethering
ameboidal-type cell migration
exocytosis
exocytic process

endocytosis
dendrite morphogenesis
monoatomic cation transport
regulation of actin polymerization or depolymerization
organic hydroxy compound metabolic process
metal ion transport
synaptic vesicle exocytosis
endomembrane system organization
regulation of endocytosis
regulation of programmed cell death
regulation of actin cytoskeleton organization
postsynaptic specialization organization
microtubule-based process
positive regulation of nervous system development
positive regulation of locomotion
inner mitochondrial membrane organization
regulation of actin filament organization
regulated exocytosis
negative regulation of signaling
synaptic vesicle recycling
regulation of synapse organization
vesicle organization
vesicle-mediated transport to the plasma membrane
cellular component maintenance
mitochondrial transport
neurotransmitter transport
regulation of actin filament polymerization
regulation of neurotransmitter levels
small GTPase mediated signal transduction
developmental growth involved in morphogenesis
regulation of protein polymerization
regulation of cell junction assembly
postsynaptic endocytosis
mitochondrial respiratory chain complex I assembly
regulation of dendrite development
regulation of actin filament-based process
establishment of organelle localization
protein targeting
transport along microtubule
vesicle budding from membrane
positive regulation of GTPase activity
positive regulation of cell migration
response to insulin
signal release from synapse
microtubule-based transport
cellular response to organonitrogen compound
post-Golgi vesicle-mediated transport
negative regulation of cell communication
regulation of apoptotic process
negative regulation of supramolecular fiber

organization

Acute F Protract F 25 regulation of translation

cell cycle

cell cycle process

amide biosynthetic process

positive regulation of protein secretion

mitotic cell cycle

aerobic electron transport chain

postsynaptic cytoskeleton organization

response to acetylcholine

postsynaptic actin cytoskeleton organization

mitotic cell cycle process

ATP biosynthetic process

acetylcholine receptor signaling pathway

response to salt

cellular response to salt

positive regulation of developmental growth

hindbrain development

G protein-coupled acetylcholine receptor signaling

pathway

carboxylic acid catabolic process

cell cycle phase transition

organic acid catabolic process

negative regulation of cell migration

response to metal ion

cellular response to acetylcholine

small molecule catabolic process

Protract M 552 positive regulation of transferase activity

lamellipodium organization

regulation of calcium ion transmembrane transporter

activity

autophagosome assembly

positive regulation of calcium ion transmembrane

transporter activity

postsynaptic specialization assembly

detoxification

vascular associated smooth muscle cell proliferation

regulation of long-term neuronal synaptic plasticity

synaptic transmission, glutamatergic

cellular response to environmental stimulus

regulation of neurotransmitter receptor localization

to postsynaptic specialization membrane

cell death in response to oxidative stress

cytosolic transport

cellular modified amino acid biosynthetic process

carboxylic acid transmembrane transport

regulation of stress fiber assembly

regulation of neuronal synaptic plasticity

regulation of membrane depolarization

positive regulation of calcium ion transmembrane

transport

- cellular response to peptide hormone stimulus
- inorganic ion import across plasma membrane
- regulation of monoatomic anion transport
- response to xenobiotic stimulus
- regulation of transporter activity
- cellular component assembly involved in morphogenesis
- Golgi to plasma membrane protein transport
- myelination in peripheral nervous system
- fatty acid biosynthetic process
- regulation of cell-substrate junction organization
- cellular response to aldehyde
- calcium-mediated signaling
- positive regulation of cation transmembrane transport
- organophosphate ester transport
- neuron projection organization
- non-membrane-bounded organelle assembly
- establishment of protein localization to extracellular

region

- organic hydroxy compound biosynthetic process
- chloride transport
- regulation of endopeptidase activity
- regulation of presynaptic membrane potential
- ligand-gated ion channel signaling pathway
- negative regulation of reactive oxygen species

biosynthetic process

- response to temperature stimulus
- positive regulation of neuron death
- regulation of protein localization to synapse
- regulation of exocytosis
- positive regulation of cell death
- phosphatidylcholine metabolic process
- cellular modified amino acid metabolic process
- protein localization to postsynaptic specialization

membrane

- negative regulation of phagocytosis
- regulation of establishment of cell polarity
- regulation of heart contraction
- axon guidance
- regulation of action potential
- phospholipid biosynthetic process
- regulation of system process
- NADH regeneration
- regulation of peptidase activity
- calcium ion transmembrane transport
- glycerophospholipid biosynthetic process
- positive regulation of calcium ion transport
- positive regulation of phagocytosis
- maintenance of protein location
- positive regulation of phosphate metabolic process

- monoatomic anion transport
- cellular response to toxic substance
- taxis
- response to cold
- regulation of modification of synaptic structure
- regulation of synaptic plasticity
- muscle cell apoptotic process
- retrograde vesicle-mediated transport, Golgi to
- endoplasmic reticulum
 - regulation of lamellipodium morphogenesis
 - peripheral nervous system development
 - organelle fusion
 - membrane depolarization
 - protein localization to microtubule
 - protein dephosphorylation
 - catecholamine metabolic process
 - regulation of apoptotic signaling pathway
 - regulation of dendritic spine morphogenesis
 - lipid localization
 - hexose transmembrane transport
 - regulation of oxidative stress-induced intrinsic
- apoptotic signaling pathway
 - glycolytic process through fructose-6-phosphate
 - myelin assembly
 - protein localization to extracellular region
 - protein secretion
 - positive regulation of vesicle fusion
 - negative regulation of molecular function
 - negative regulation of amyloid precursor protein
- catabolic process
 - regulation of potassium ion transmembrane transport
 - positive regulation of signal transduction
 - actin cytoskeleton reorganization
 - protein localization to postsynapse
 - positive regulation of synaptic vesicle membrane
- organization
 - regulation of oxidative stress-induced cell death
 - Golgi organization
 - UTP biosynthetic process
 - negative regulation of neuron death
 - negative regulation of calcium ion transmembrane
- transport
 - regulation of microtubule cytoskeleton organization
 - negative regulation of vascular associated smooth
- muscle cell migration
 - synaptic vesicle docking
 - regulation of calcium ion transmembrane transport
 - response to steroid hormone
 - positive regulation of actin filament bundle assembly
 - intracellular potassium ion homeostasis

	negative regulation of phosphorus metabolic process
	actin filament-based movement
	myelination
	establishment of cell polarity
activity	negative regulation of ion transmembrane transporter
	neutral lipid metabolic process
	modification of synaptic structure
	synaptic vesicle priming
	heart process
	protein localization to cell surface
	regulation of postsynaptic density organization
	phagocytosis
	axon ensheathment
	Schwann cell development
	regulation of protein processing
	monosaccharide catabolic process
process	regulation of amyloid precursor protein catabolic
	regulation of neuron apoptotic process
	calcium ion-regulated exocytosis of neurotransmitter
	regulation of calcium ion transport
	cardiac muscle contraction
	inorganic anion transport
	cellular response to insulin stimulus
	vascular associated smooth muscle cell migration
	ERBB signaling pathway
	regulation of actomyosin structure organization
cell adhesion molecules	heterophilic cell-cell adhesion via plasma membrane
	regulation of monoatomic ion transmembrane transporter
activity	
	locomotory exploration behavior
	regulation of regulated secretory pathway
	actomyosin structure organization
	regulation of synaptic vesicle membrane organization
	positive regulation of oxidoreductase activity
	response to endoplasmic reticulum stress
	negative regulation of protein depolymerization
	regulation of synaptic vesicle fusion to presynaptic
active zone membrane	
	regulation of vascular associated smooth muscle cell
migration	
	receptor localization to synapse
	establishment of mitotic spindle orientation
	regulation of synaptic vesicle priming
	endosomal transport
	lysosomal transport
	negative regulation of monoatomic ion transmembrane
transport	

glucose transmembrane transport
 cellular detoxification of aldehyde
 maintenance of synapse structure
 negative regulation of amyloid-beta formation
 export across plasma membrane
 cellular response to endogenous stimulus
 regulation of monooxygenase activity
 glucose import
 positive regulation of neuron projection development
 glycolytic process through glucose-6-phosphate
 lytic vacuole organization
 establishment or maintenance of transmembrane
 electrochemical gradient
 regulation of striated muscle contraction
 autophagy of mitochondrion
 regulation of organelle assembly
 plasma membrane organization
 response to thyroid hormone
 calcium ion transport
 regulation of protein maturation
 negative regulation of peptidase activity
 positive regulation of transporter activity
 microtubule polymerization
 regulation of plasma membrane bounded cell projection
 assembly
 neurotransmitter receptor localization to postsynaptic
 specialization membrane
 mitochondrion disassembly
 positive regulation of programmed cell death
 regulation of amyloid-beta formation
 Schwann cell differentiation
 regulation of cardiac muscle cell contraction
 regulation of the force of heart contraction
 regulation of amine transport
 positive regulation of axonogenesis
 relaxation of muscle
 amyloid precursor protein metabolic process
 regulation of cysteine-type endopeptidase activity
 presynaptic endocytosis
 long-chain fatty acid import into cell
 cerebral cortex development
 membrane fusion
 regulation of protein kinase activity
 regulation of protein dephosphorylation
 monosaccharide transmembrane transport
 organic anion transport
 regulation of blood circulation
 positive regulation of kinase activity
 regulation of catecholamine secretion
 retrograde protein transport, ER to cytosol

	spindle localization polyol metabolic process action potential propagation cellular response to nitrogen levels modification of postsynaptic actin cytoskeleton positive regulation of intracellular signal
transduction	ubiquitin-dependent ERAD pathway glycerolipid metabolic process blood circulation phosphatidylcholine biosynthetic process import into cell vacuole organization negative regulation of striated muscle contraction negative regulation of proteolysis positive regulation of proteolysis positive regulation of stress fiber assembly synaptic vesicle fusion to presynaptic active zone
membrane	amino acid transport sodium ion transport cellular response to abiotic stimulus stress fiber assembly negative regulation of vascular associated smooth
muscle cell proliferation	regulation of smooth muscle cell migration transport across blood-brain barrier regulation of neurotransmitter secretion potassium ion transmembrane transport striated muscle contraction negative regulation of transport regulation of sodium ion transmembrane transporter
activity	cardiac muscle cell action potential inorganic cation import across plasma membrane potassium ion homeostasis positive regulation of apoptotic process polyol biosynthetic process regulation of calcium ion-dependent exocytosis of
neurotransmitter	protein targeting to mitochondrion positive regulation of exocytosis biological process involved in symbiotic interaction alcohol biosynthetic process positive regulation of axon extension regulation of calcium ion-dependent exocytosis neuron death cardiac muscle cell action potential involved in
contraction	positive regulation of cytoskeleton organization

monocarboxylic acid biosynthetic process
response to reactive oxygen species
regulation of microtubule-based process
establishment of spindle localization
organic acid transport
regulation of amyloid fibril formation
glial cell development
cardiac muscle cell contraction
positive regulation of phosphorylation
action potential
regulation of Ras protein signal transduction
sodium ion export across plasma membrane
regulation of postsynapse organization
regulation of transmembrane transporter activity
mitochondrial membrane organization
reactive oxygen species metabolic process
inhibitory synapse assembly
G protein-coupled receptor signaling pathway involved

in heart process

protein localization to axon
response to mechanical stimulus
protein localization to microtubule cytoskeleton
negative regulation of catalytic activity
vesicle-mediated cholesterol transport
plasma membrane repair
negative regulation of catabolic process
selective autophagy
ERAD pathway
contractile actin filament bundle assembly
response to toxic substance
regulation of cytosolic calcium ion concentration
regulation of muscle cell apoptotic process
response to copper ion
regulation of neuron death
regulation of microtubule polymerization or

depolymerization

response to nutrient levels
regulation of protein folding
regulation of hormone levels
adult behavior
lipid biosynthetic process
neuronal action potential propagation
negative regulation of heart contraction
endocytic recycling
vesicle fusion
regulation of cardiac muscle cell membrane potential
regulation of cytoplasmic transport
protein localization to mitochondrion
developmental maturation
positive regulation of synaptic vesicle fusion to

presynaptic active zone membrane

- autophagosome organization
- regulation of synaptic vesicle exocytosis
- regulation of short-term neuronal synaptic plasticity
- T-tubule organization
- sodium ion homeostasis
- regulation of actin filament-based movement
- cellular lipid metabolic process
- protein deneddylation
- catechol-containing compound metabolic process
- retrograde axonal transport
- protein localization to synapse
- cell redox homeostasis
- neuron apoptotic process
- response to iron(II) ion
- positive regulation of signaling
- regulation of postsynaptic membrane potential
- positive regulation of secretion
- ruffle organization
- phospholipid translocation
- glucose catabolic process to pyruvate
- telencephalon development
- regulation of protein-containing complex disassembly
- macroautophagy
- lysosome organization
- organelle disassembly
- glycerophospholipid metabolic process
- intrinsic apoptotic signaling pathway
- negative regulation of cation transmembrane transport
- regulation of proteolysis
- negative regulation of actin filament polymerization
- negative regulation of protein polymerization
- dopamine transport
- regulation of modification of postsynaptic structure
- second-messenger-mediated signaling
- regulation of lamellipodium organization
- maintenance of location
- axonal transport
- negative regulation of neuron apoptotic process
- regulation of intracellular transport
- negative regulation of exocytosis
- regulation of synaptic transmission, glutamatergic
- ionotropic glutamate receptor signaling pathway
- carbohydrate biosynthetic process
- regulation of cellular response to oxidative stress
- process utilizing autophagic mechanism
- potassium ion transport
- hormone transport
- negative regulation of actin nucleation
- regulation of response to oxidative stress

	negative regulation of hydrolase activity
	cellular response to nitrogen starvation
	regulation of lipase activity
	positive regulation of small GTPase mediated signal
transduction	
	negative regulation of amyloid fibril formation
	catecholamine secretion
	positive regulation of cell communication
	alcohol metabolic process
	intrinsic apoptotic signaling pathway in response to
oxidative stress	
	organic hydroxy compound transport
	positive regulation of monoatomic ion transmembrane
transport	
	positive regulation of actin filament polymerization
	positive regulation of plasma membrane bounded cell
projection assembly	
	regulation of small GTPase mediated signal
transduction	
	chloride transmembrane transport
	canonical glycolysis
	modification of postsynaptic structure
	regulation of extent of cell growth
	amyloid fibril formation
	establishment of protein localization to organelle
	cellular response to hormone stimulus
	positive regulation of protein phosphorylation
	microtubule-based movement
	cytokinetic process
	regulation of receptor localization to synapse
	endoplasmic reticulum to cytosol transport
	negative regulation of intrinsic apoptotic signaling
pathway	
	cardiac conduction
	calcium-dependent activation of synaptic vesicle
fusion	
	exocytic insertion of neurotransmitter receptor to
postsynaptic membrane	
	brain morphogenesis
	regulation of filopodium assembly
	regulation of dephosphorylation
	receptor recycling
	negative regulation of programmed cell death
	dendritic spine morphogenesis
	negative regulation of intracellular transport
	positive regulation of phosphorus metabolic process
	smooth muscle cell migration
	regulation of cysteine-type endopeptidase activity
involved in apoptotic process	
	regulation of cation channel activity

	negative regulation of organelle organization
	negative regulation of calcium ion transmembrane
transporter activity	autophagy
	negative regulation of cytoskeleton organization
	positive regulation of protein kinase activity
	heart contraction
	cell-substrate junction assembly
	negative regulation of endocytosis
	transmission of nerve impulse
	endoplasmic reticulum organization
	organelle transport along microtubule
	regulation of axonogenesis
	positive regulation of neurotransmitter secretion
	cellular detoxification
	regulation of reactive oxygen species metabolic
process	response to extracellular stimulus
	organelle membrane fusion
	regulation of alcohol biosynthetic process
	dendritic spine organization
	positive regulation of reactive oxygen species
metabolic process	striated muscle cell apoptotic process
	regulation of histone ubiquitination
	cellular response to chemical stress
	positive regulation of organelle assembly
	positive regulation of organelle organization
	membrane repolarization
	regulation of establishment of protein localization to
telomere	regulation of phagocytosis
	muscle system process
	axon extension
	cellular response to reactive oxygen species
	positive regulation of protein polymerization
	negative regulation of calcium ion transport
	neuron projection guidance
	viral process
	regulation of dopamine secretion
	positive regulation of growth
	vesicle-mediated transport between endosomal
compartments	regulation of axon extension
	cellular oxidant detoxification
	endoplasmic reticulum tubular network organization
	sodium ion transmembrane transport
	vesicle fusion to plasma membrane
	positive regulation of neurogenesis
	positive regulation of neuron apoptotic process

	regulation of intracellular pH
	actin nucleation
	autophagosome maturation
	amine metabolic process
	cellular response to peptide
	positive regulation of establishment of protein
localization to	telomere
	adult locomotory behavior
	regulation of cardiac muscle contraction
	wound healing
	negative regulation of smooth muscle cell migration
	protein N-linked glycosylation via asparagine
	regulation of cell morphogenesis involved in
differentiation	positive regulation of cell motility
	regulation of early endosome to late endosome
transport	
	carbohydrate metabolic process
	negative regulation of oxidative stress-induced cell
death	
	regulation of protein depolymerization
	excitatory synapse assembly
	pallium development
	regulation of vascular associated smooth muscle cell
proliferation	
	cristae formation
	positive regulation of endocytosis
	regulation of cell projection assembly
	hydrogen peroxide catabolic process
	chaperone-mediated protein folding
	lipid transport
	regulation of ATP-dependent activity
	microtubule cytoskeleton organization
	regulation of intrinsic apoptotic signaling pathway
	positive regulation of lamellipodium organization
	dopamine secretion
	regulation of muscle contraction
	actin-mediated cell contraction
	negative regulation of oxidative stress-induced
intrinsic apoptotic signaling pathway	
	maintenance of protein location in cell
	cellular response to hydrogen peroxide
	intracellular sodium ion homeostasis
	cellular response to organic cyclic compound
	glycerolipid biosynthetic process
	response to peptide hormone
	phospholipid transport
	membrane depolarization during action potential
	phagosome-lysosome fusion
	phospholipid metabolic process

	vacuolar transport proton transmembrane transport negative regulation of protein-containing complex
assembly	protein sumoylation regulation of neurotransmitter transport cellular response to steroid hormone stimulus regulation of intestinal absorption hydrogen peroxide metabolic process alditol biosynthetic process lipid import into cell postsynapse assembly CDP-diacylglycerol metabolic process negative regulation of endopeptidase activity endoplasmic reticulum to Golgi vesicle-mediated
transport	negative regulation of phosphate metabolic process synaptic vesicle membrane organization regulation of actin filament bundle assembly peripheral nervous system axon ensheathment calcium ion transmembrane import into cytosol protein localization to membrane raft ensheathment of neurons regulation of dendritic spine development chemotaxis hexose catabolic process podosome assembly mitochondrial calcium ion homeostasis retrograde transport, endosome to Golgi aggrephagy positive regulation of sodium ion transport positive regulation of protein dephosphorylation positive regulation of ion transmembrane transporter
activity	muscle contraction calcium-mediated signaling using intracellular calcium
source	negative regulation of apoptotic process protein localization to cytoskeleton central nervous system neuron differentiation negative regulation of blood circulation early endosome to late endosome transport protein localization to postsynaptic membrane regulation of autophagy positive regulation of dendritic spine development positive regulation of protein serine/threonine kinase
activity	cellular response to heat microtubule polymerization or depolymerization establishment of protein localization to plasma

membrane

autophagosome membrane docking
apoptotic signaling pathway
carboxylic acid transport
regulation of developmental growth
regulation of muscle system process
protein-containing complex disassembly
protein depolymerization
phosphatidylserine metabolic process
vesicle cytoskeletal trafficking
regulation of cardiac muscle contraction by calcium

ion signaling

response to hormone
regulation of cell-substrate adhesion
maintenance of location in cell
leukocyte migration
calcium ion export across plasma membrane
muscle cell migration
positive regulation of ATP-dependent activity
neurotransmitter receptor internalization
regulation of membrane potential
response to hydrogen peroxide
circulatory system process
dopamine metabolic process
vascular transport
peptidyl-cysteine modification
regulation of cell growth
organic acid transmembrane transport
negative regulation of monoatomic ion transport
positive regulation of dephosphorylation
protein oxidation
secretory granule localization
response to peptide
import across plasma membrane
cellular response to oxidative stress
negative regulation of transporter activity
monoatomic anion transmembrane transport
regulation of vesicle fusion

Protract F

86 DNA metabolic process
regulation of cell cycle G1/S phase transition
DNA damage response
glucan metabolic process
DNA repair
leukocyte cell-cell adhesion
regulation of protein ubiquitination
positive regulation of cell differentiation
nucleoside bisphosphate biosynthetic process
regulation of amine metabolic process
microtubule anchoring at centrosome
positive regulation of insulin secretion

	microtubule anchoring
	endothelial cell migration
	negative regulation of translation
	sister chromatid segregation
	cell cycle G1/S phase transition
	non-motile cilium assembly
	glycogen metabolic process
	positive regulation of membrane potential
	Rac protein signal transduction
	positive regulation of nitric oxide biosynthetic
process	muscle structure development
	regulation of nucleotide-excision repair
	regulation of cell adhesion
	regulation of G1/S transition of mitotic cell cycle
	positive regulation of peptide secretion
	positive regulation of T cell activation
	viral genome replication
	ribonucleoside bisphosphate biosynthetic process
	positive regulation of protein localization to nucleus
	chromatin organization
	methylglyoxal catabolic process to D-lactate via S-
lactoyl-glutathione	
	response to fatty acid
	purine ribonucleotide catabolic process
	organophosphate catabolic process
	regulation of amide metabolic process
	ketone catabolic process
	glucan biosynthetic process
	positive regulation of glial cell differentiation
	positive regulation of peptide hormone secretion
	regulation of response to stress
	glycogen biosynthetic process
	regulation of nitric oxide mediated signal
transduction	
	positive regulation of protein localization to plasma
membrane	
	positive regulation of nitric oxide metabolic process
	regulation of protein modification by small protein
conjugation or removal	
	MHC protein complex assembly
	positive regulation of DNA repair
	regulation of nitric oxide biosynthetic process
	double-strand break repair
	negative regulation of neuron projection development
	tricarboxylic acid cycle
	chromosome organization
	receptor clustering
	regulation of cell cycle process
	peptidyl-amino acid modification

	methylglyoxal catabolic process to lactate negative regulation of amide metabolic process regulation of DNA repair methylglyoxal catabolic process actin crosslink formation phospholipase C-activating G protein-coupled
acetylcholine receptor signaling pathway	nucleotide-excision repair cellular response to carbohydrate stimulus myoblast differentiation L-serine metabolic process viral life cycle positive regulation of protein localization to cell
periphery	positive regulation of protein import into nucleus aldehyde catabolic process regulation of cell development positive regulation of myoblast differentiation regulation of cell cycle cerebellum morphogenesis peptide antigen assembly with MHC protein complex sprouting angiogenesis purine nucleoside bisphosphate biosynthetic process lamellipodium assembly positive regulation of macromolecule biosynthetic
process	peripheral nervous system myelin maintenance microtubule anchoring at microtubule organizing center G1/S transition of mitotic cell cycle positive regulation of cell adhesion nitric oxide biosynthetic process nitric oxide mediated signal transduction
Acute F 75	mitochondrial gene expression primary amino compound metabolic process regulation of peptidyl-cysteine S-nitrosylation negative regulation of phosphatase activity neuromuscular junction development amino acid metabolic process alpha-amino acid metabolic process maintenance of postsynaptic specialization structure cytoskeleton-dependent cytokinesis lipid droplet organization indole-containing compound metabolic process protein trimerization proton motive force-driven mitochondrial ATP synthesis synaptic vesicle localization positive regulation of dendrite extension visual behavior pigment granule localization Golgi localization

ATP synthesis coupled electron transport
 regulation of ARF protein signal transduction
 cellular response to inorganic substance
 cellular nitrogen compound catabolic process
 heterocycle catabolic process
 cellular response to metal ion
 maintenance of epithelial cell apical/basal polarity
 response to calcium ion
 cellular response to cocaine
 dicarboxylic acid transport
 melanosome localization
 visual learning
 regulation of neuron migration
 negative regulation of dephosphorylation
 protein insertion into membrane
 lipid modification
 maintenance of cell polarity
 organic cyclic compound catabolic process
 ARF protein signal transduction
 establishment of pigment granule localization
 associative learning
 positive regulation of G protein-coupled receptor
 signaling pathway
 vesicle tethering involved in exocytosis
 regulation of G protein-coupled receptor signaling
 pathway
 regulation of cellular catabolic process
 response to amphetamine
 D-aspartate import across plasma membrane
 regulation of mitochondrial RNA catabolic process
 mitochondrial RNA catabolic process
 mitochondrial electron transport, NADH to ubiquinone
 mitotic cytokinesis
 D-amino acid transport
 cellular pigmentation
 mRNA catabolic process
 regulation of dendrite morphogenesis
 translation at postsynapse
 neuromuscular process controlling balance
 postsynaptic signal transduction
 response to light stimulus
 adenylate cyclase-activating adrenergic receptor
 signaling pathway involved in heart process
 establishment of melanosome localization
 maintenance of apical/basal cell polarity
 translation at presynapse
 RNA catabolic process
 regulation of dendrite extension
 mitochondrial ATP synthesis coupled electron transport
 vesicle targeting

nucleobase-containing compound catabolic process
response to radiation
mitochondrial translation
C4-dicarboxylate transport
vesicle tethering
aromatic compound catabolic process
translation at synapse
D-aspartate transport
vesicle cargo loading
serotonin metabolic process