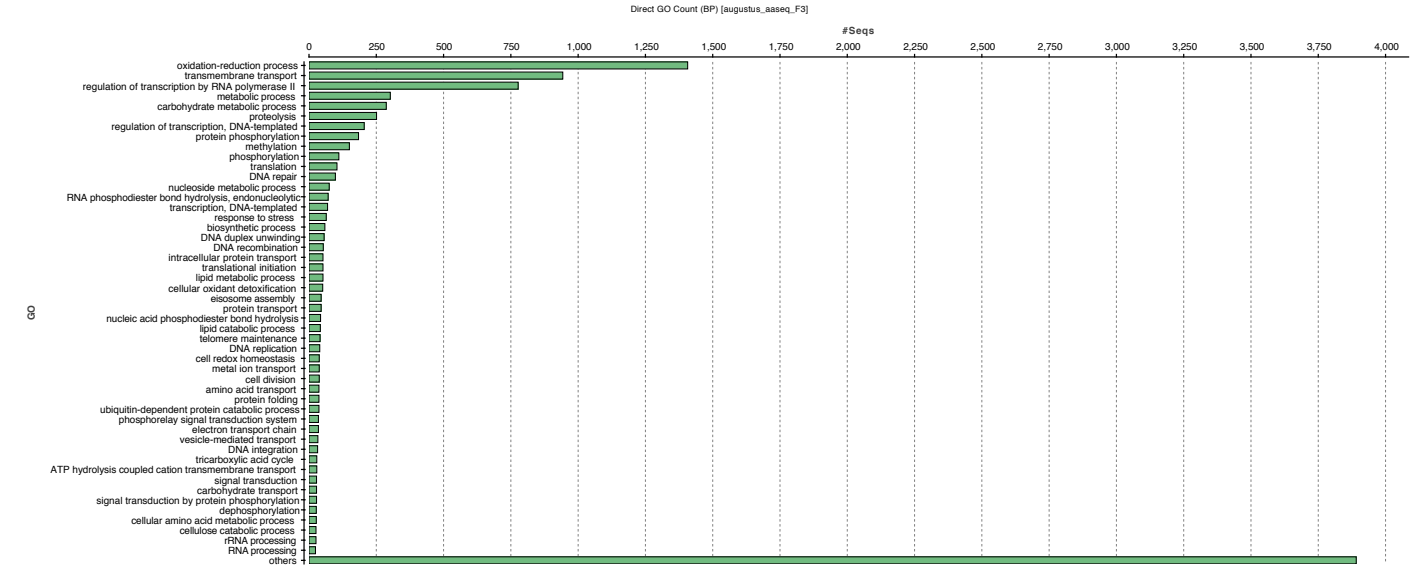
A

Fig S1

F3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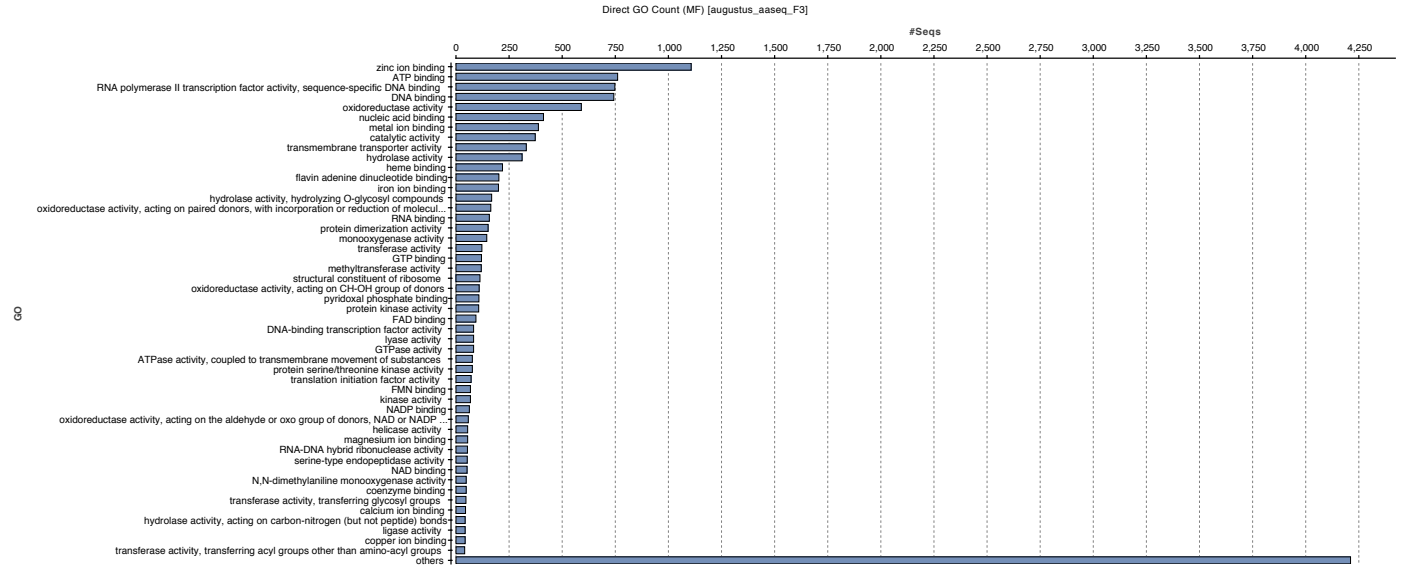
GO
oxidation-reduction process
transmembrane transport
regulation of transcription by RNA polymerase II
metabolic process
carbohydrate metabolic process
proteolysis
regulation of transcription, DNA-templated
protein phosphorylation
methylation
phosphorylation
translation
DNA repair
nucleoside metabolic process
RNA phosphodiester bond hydrolysis, endonucleolytic
transcription, DNA-templated
response to stress
biosynthetic process
DNA duplex unwinding
DNA recombination
intracellular protein transport
translational initiation
lipid metabolic process
cellular oxidant detoxification
eisosome assembly
protein transport
nucleic acid phosphodiester bond hydrolysis
lipid catabolic process
telomere maintenance
DNA replication
cell redox homeostasis
metal ion transport
cell division
amino acid transport
protein folding
ubiquitin-dependent protein catabolic process
phosphorelay signal transduction system
electron transport chain
vesicle-mediated transport
DNA integration
tricarboxylic acid cycle
ATP hydrolysis coupled cation transmembrane transport
signal transduction
carbohydrate transport
signal transduction by protein phosphorylation
dephosphorylation
cellular amino acid metabolic process
cellulose catabolic process
rRNA processing
RNA processing
others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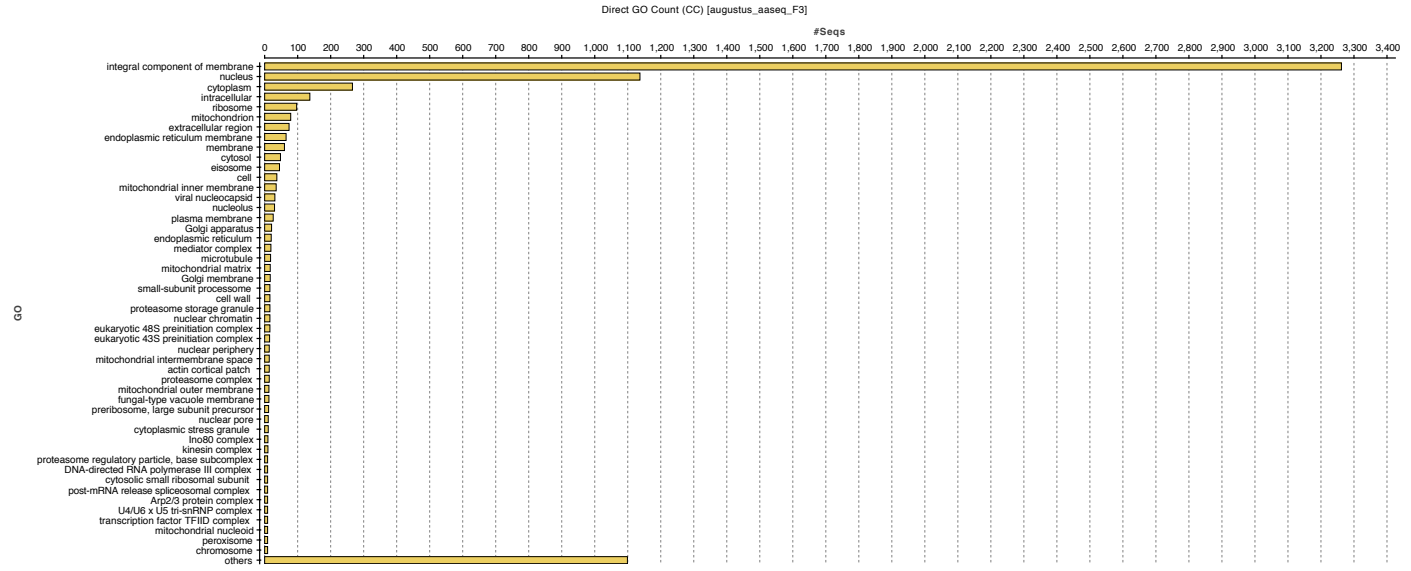
GO
zinc ion binding
ATP binding
RNA polymerase II transcription factor activity, sequence-specific DNA binding
DNA binding
oxidoreductase activity
nucleic acid binding
metal ion binding
catalytic activity
transmembrane transporter activity
hydrolase activity
heme binding
flavin adenine dinucleotide binding
iron ion binding
hydrolase activity, hydrolyzing O-glycosyl compounds
oxidoreductase activity, acting on paired donors, with incorporation or reduction of molecul...
RNA binding
protein dimerization activity
monooxygenase activity
transferase activity
GTP binding
methyltransferase activity
structural constituent of ribosome
oxidoreductase activity, acting on CH-OH group of donors
pyridoxal phosphate binding
protein kinase activity
FAD binding
DNA-binding transcription factor activity
lyase activity
GTPase activity
ATPase activity, coupled to transmembrane movement of substances
protein serine/threonine kinase activity
translation initiation factor activity
FMN binding
kinase activity
NADP binding
oxidoreductase activity, acting on the aldehyde or oxo group of donors, NAD or NADP ...
helicase activity
magnesium ion binding
RNA-DNA hybrid ribonuclease activity
serine-type endopeptidase activity
NAD binding
N,N-dimethylaniline monooxygenase activity
coenzyme binding
transferase activity, transferring glycosyl groups
calcium ion binding
hydrolase activity, acting on carbon-nitrogen (but not peptide) bonds
ligase activity
copper ion binding
transferase activity, transferring acyl groups other than amino-acyl groups
others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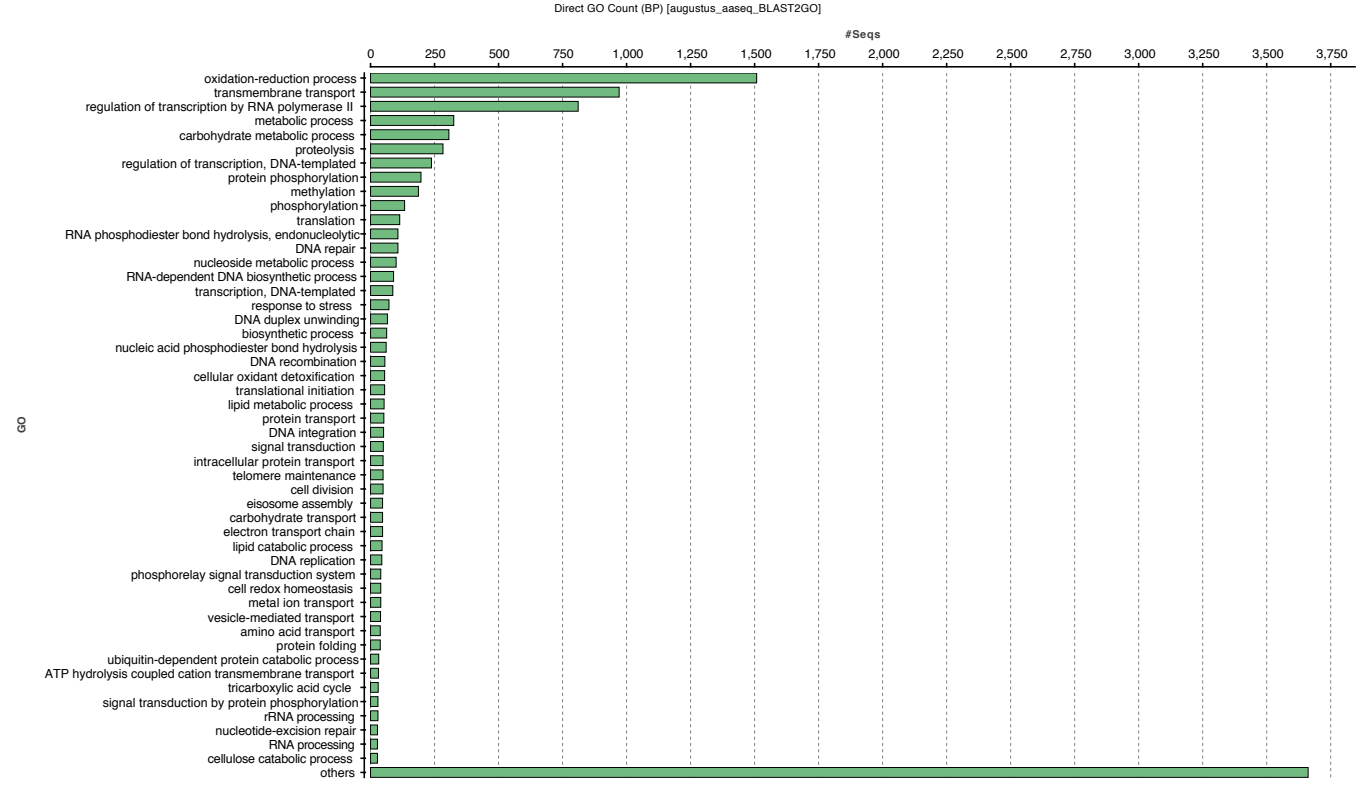
GO
integral component of membrane
nucleus
cytoplasm
intracellular
ribosome
mitochondrion
extracellular region
endoplasmic reticulum membrane
membrane
cytosol
eisosome
cell
mitochondrial inner membrane
viral nucleocapsid
nucleolus
plasma membrane
Golgi apparatus
endoplasmic reticulum
mediator complex
microtubule
mitochondrial matrix
Golgi membrane
small-subunit processome
cell wall
proteasome storage granule
nuclear chromatin
eukaryotic 48S preinitiation complex
eukaryotic 43S preinitiation complex
nuclear periphery
mitochondrial intermembrane space
actin cortical patch
proteasome complex
mitochondrial outer membrane
fungal-type vacuole membrane
preribosome, large subunit precursor
nuclear pore
cytoplasmic stress granule
Ino80 complex
kinesin complex
proteasome regulatory particle, base subcomplex
DNA-directed RNA polymerase III complex
cytosolic small ribosomal subunit
post-mRNA release spliceosomal complex
Arp2/3 protein complex
U4/U6 x U5 tri-snRNP complex
transcription factor TFIID complex
mitochondrial nucleoid
peroxisome
chromosome
others

B

F4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transmembrane transport
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carbohydrate metabolic process
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regulation of transcription, DNA-templated
protein phosphorylation
methylation
phosphorylation
translation
RNA phosphodiester bond hydrolysis, endonucleolytic
DNA repair
nucleoside metabolic process
RNA-dependent DNA biosynthetic process
transcription, DNA-templated
response to stress
DNA duplex unwinding
biosynthetic process
nucleic acid phosphodiester bond hydrolysis
DNA recombination
cellular oxidant detoxification
translational initiation
lipid metabolic process
protein transport
DNA integration
signal transduction
intracellular protein transport
telomere maintenance
cell division
eisosome assembly
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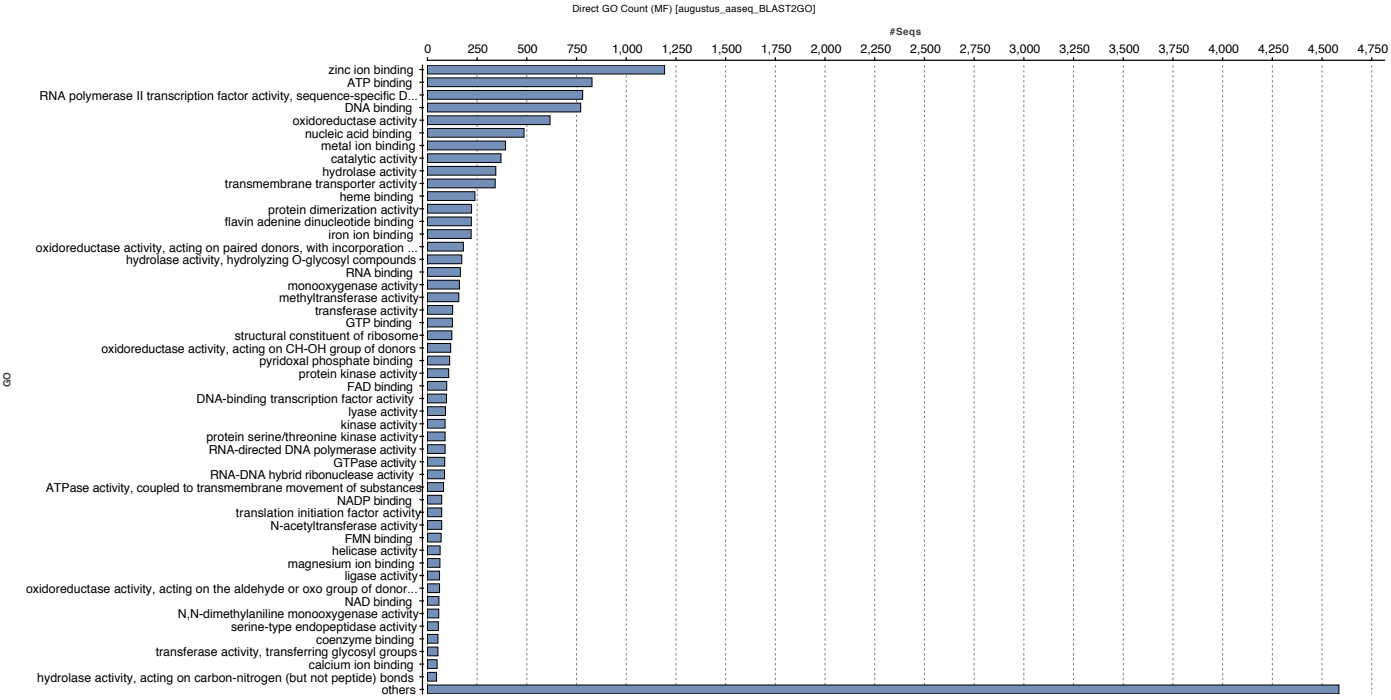
electron transport chain
lipid catabolic process
DNA replication
phosphorelay signal transduction system
cell redox homeostasis
metal ion transport
vesicle-mediated transport
amino acid transport
protein folding
ubiquitin-dependent protein catabolic process
ATP hydrolysis coupled cation transmembrane transport
tricarboxylic acid cycle
signal transduction by protein phosphorylation
rRNA processing
nucleotide-excision repair
RNA processing
cellulose catabolic process
others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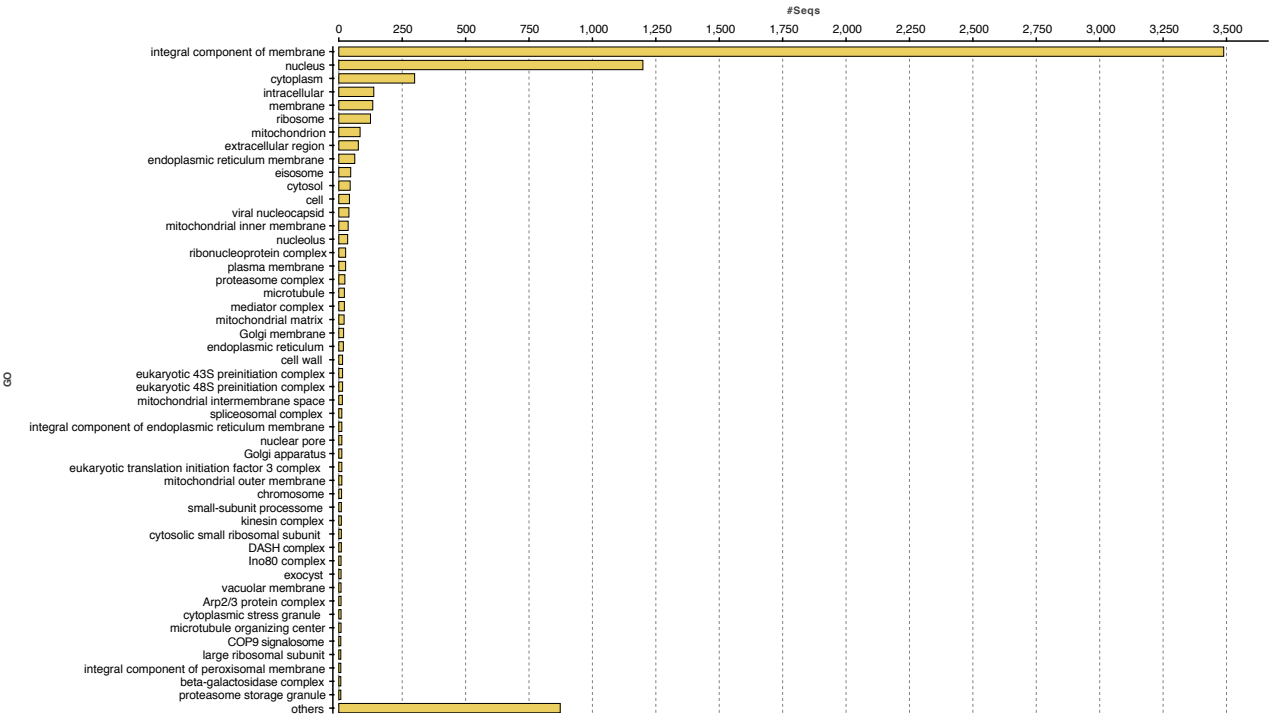
ATP binding
RNA polymerase II transcription factor activity, sequence-specific D...
DNA binding
oxidoreductase activity
nucleic acid binding
metal ion binding
catalytic activity
hydrolase activity
transmembrane transporter activity
heme binding
protein dimerization activity
flavin adenine dinucleotide binding
iron ion binding
oxidoreductase activity, acting on paired donors, with incorporation ...
hydrolase activity, hydrolyzing O-glycosyl compounds
RNA binding
monooxygenase activity
methyltransferase activity
transferase activity
GTP binding
structural constituent of ribosome
oxidoreductase activity, acting on CH-OH group of donors
pyridoxal phosphate binding
protein kinase activity
FAD binding
DNA-binding transcription factor activity
lyase activity
kinase activity
protein serine/threonine kinase activity
RNA-directed DNA polymerase activity
GTPase activity
RNA-DNA hybrid ribonuclease activity
ATPase activity, coupled to transmembrane movement of substances
NADP binding
translation initiation factor activity
N-acetyltransferase activity
FMN binding
helicase activity
magnesium ion binding
ligase activity
oxidoreductase activity, acting on the aldehyde or oxo group of donor...
NAD binding
N,N-dimethylaniline monooxygenase activity
serine-type endopeptidase activity
coenzyme binding
transferase activity, transferring glycosyl groups
calcium ion binding
hydrolase activity, acting on carbon-nitrogen (but not peptide) bonds
others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1,500
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2,000
2,250
2,500
2,750
3,000
3,250
3,500
GO
integral component of membrane
nucleus
cytoplasm
intracellular
membrane
ribosome
mitochondrion
extracellular region
endoplasmic reticulum membrane
eisosome
cytosol
cell
viral nucleocapsid
mitochondrial inner membrane
nucleolus
ribonucleoprotein complex
plasma membrane
proteasome complex
microtubule
mediator complex
mitochondrial matrix
Golgi membrane
endoplasmic reticulum
cell wall
eukaryotic 43S preinitiation complex
eukaryotic 48S preinitiation complex
mitochondrial intermembrane space
spliceosomal complex
integral component of endoplasmic reticulum membrane
nuclear pore
Golgi apparatus
eukaryotic translation initiation factor 3 complex
mitochondrial outer membrane
chromosome
small-subunit processome
kinesin complex
cytosolic small ribosomal subunit
DASH complex
Ino80 complex
exocyst
vacuolar membrane
Arp2/3 protein complex
cytoplasmic stress granule
microtubule organizing center
COP9 signalosome
large ribosomal subunit
integral component of peroxisomal membrane
beta-galactosidase complex
proteasome storage granule
others