

GO Annotations used for identifying Protein Degradation/ Ubiquitin associated proteins

GO:0000151 ubiquitin ligase complex
GO:0001509 legumain activity
GO:0004175 endopeptidase activity
GO:0004176 ATP-dependent peptidase activity
GO:0004177 aminopeptidase activity
GO:0004178 leucyl aminopeptidase activity
GO:0004179 membrane alanyl aminopeptidase activity
GO:0004180 carboxypeptidase activity
GO:0004182 carboxypeptidase A activity
GO:0004185 serine carboxypeptidase activity
GO:0004186 carboxypeptidase C activity
GO:0004187 carboxypeptidase D activity
GO:0004190 aspartic-type endopeptidase activity
GO:0004191 barrierpepsin activity
GO:0004194 pepsin A activity
GO:0004196 saccharopepsin activity
GO:0004197 cysteine-type endopeptidase activity
GO:0004198 calpain activity
GO:0004221 ubiquitin thiolesterase activity
GO:0004222 metalloendopeptidase activity
GO:0004226 Gly-X carboxypeptidase activity
GO:0004239 methionyl aminopeptidase activity
GO:0004240 mitochondrial processing peptidase activity
GO:0004243 mitochondrial intermediate peptidase activity
GO:0004244 mitochondrial inner membrane peptidase activity
GO:0004247 saccharolysin activity
GO:0004250 aminopeptidase I activity
GO:0004252 serine-type endopeptidase activity
GO:0004262 cerevisin activity
GO:0004274 dipeptidyl-peptidase IV activity
GO:0004287 prolyl oligopeptidase activity
GO:0004289 subtilase activity
GO:0004298 threonine endopeptidase activity
GO:0004839 ubiquitin activating enzyme activity
GO:0004839 ubiquitin activating enzyme activity
GO:0004842 ubiquitin conjugating enzyme activity
GO:0004843 ubiquitin-specific protease activity
GO:0004866 endopeptidase inhibitor activity
GO:0004867 serine-type endopeptidase inhibitor activity
GO:0005680 anaphase-promoting complex
GO:0006511 ubiquitin-dependent protein catabolic process
GO:0006512 ubiquitin cycle
GO:0008054 cyclin catabolic process
GO:0008233 peptidase activity
GO:0008234 cysteine-type peptidase activity
GO:0008235 metalloexopeptidase activity
GO:0008236 serine-type peptidase activity
GO:0008237 metallopeptidase activity
GO:0008423 bleomycin hydrolase activity
GO:0008450 O-sialoglycoprotein endopeptidase activity
GO:0008451 X-Pro aminopeptidase activity
GO:0008487 prenyl-dependent CAAX protease activity
GO:0008641 small protein activating enzyme activity
GO:0008717 D-alanyl-D-alanine endopeptidase activity

GO:0008769 X-His dipeptidase activity
GO:0009003 signal peptidase activity
GO:0009049 aspartic-type signal peptidase activity
GO:0016574 histone ubiquitination
GO:0016806 dipeptidyl-peptidase and tripeptidyl-peptidase activity
GO:0016929 SUMO-specific protease activity
GO:0017039 dipeptidyl-peptidase III activity
GO:0019005 SCF ubiquitin ligase complex
GO:0019778 APG12 activating enzyme activity
GO:0019779 APG8 activating enzyme activity
GO:0019781 NEDD8 activating enzyme activity
GO:0019787 small conjugating protein ligase activity
GO:0019789 SUMO ligase activity
GO:0019948 SUMO activating enzyme activity
GO:0030414 protease inhibitor activity
GO:0030433 ER-associated protein catabolic process
GO:0030693 caspase activity
GO:0031145 anaphase-promoting complex-dependent proteasomal ubiquitin-dependent protein catabolic process
GO:0031146 SCF-dependent proteasomal ubiquitin-dependent protein catabolic process
GO:0031371 ubiquitin conjugating enzyme complex
GO:0031386 protein tag
GO:0031463 Cul3-RING ubiquitin ligase complex
GO:0032435 negative regulation of proteasomal ubiquitin-dependent protein catabolic process
GO:0042292 URM1 activating enzyme activity
GO:0042576 aspartyl aminopeptidase activity
GO:0042787 protein ubiquitination during ubiquitin-dependent protein catabolic process
GO:0043130 ubiquitin binding
GO:0043161 proteasomal ubiquitin-dependent protein catabolic process
GO:0043162 ubiquitin-dependent protein catabolic process via the multivesicular body pathway
GO:0043224 nuclear SCF ubiquitin ligase complex
GO:0043328 protein targeting to vacuole during ubiquitin-dependent protein catabolic process via the MVB pathway
GO:0051436 negative regulation of ubiquitin ligase activity during mitotic cell cycle
GO:0051443 positive regulation of ubiquitin ligase activity

GO Annotations used for identifying Kinase/Phosphatase proteins

GO:0000155 two-component sensor activity
GO:0000156 two-component response regulator activity
GO:0000158 protein phosphatase type 2A activity
GO:0000159 protein phosphatase type 2A complex
GO:0000163 protein phosphatase type 1 activity
GO:0000164 protein phosphatase type 1 complex
GO:0003924 GTPase activity
GO:0004672 protein kinase activity
GO:0004673 protein histidine kinase activity
GO:0004674 protein serine/threonine kinase activity
GO:0004679 AMP-activated protein kinase activity
GO:0004680 casein kinase activity
GO:0004681 casein kinase I activity
GO:0004682 protein kinase CK2 activity
GO:0004683 calmodulin regulated protein kinase activity
GO:0004684 calmodulin-dependent protein kinase I activity
GO:0004685 calcium- and calmodulin-dependent protein kinase activity
GO:0004691 cAMP-dependent protein kinase activity
GO:0004693 cyclin-dependent protein kinase activity
GO:0004694 eukaryotic translation initiation factor 2alpha kinase activity
GO:0004696 glycogen synthase kinase 3 activity
GO:0004697 protein kinase C activity
GO:0004702 receptor signaling protein serine/threonine kinase activity
GO:0004707 MAP kinase activity
GO:0004708 MAP kinase kinase activity
GO:0004709 MAP kinase kinase kinase activity
GO:0004712 protein threonine/tyrosine kinase activity
GO:0004713 protein-tyrosine kinase activity
GO:0004721 phosphoprotein phosphatase activity
GO:0004722 protein serine/threonine phosphatase activity
GO:0004723 calcium-dependent protein serine/threonine phosphatase activity
GO:0004725 protein tyrosine phosphatase activity
GO:0004727 prenylated protein tyrosine phosphatase activity
GO:0004860 protein kinase inhibitor activity
GO:0004861 cyclin-dependent protein kinase inhibitor activity
GO:0004862 cAMP-dependent protein kinase inhibitor activity
GO:0004864 protein phosphatase inhibitor activity
GO:0004871 signal transducer activity
GO:0004872 receptor activity
GO:0004888 transmembrane receptor activity
GO:0004930 G-protein coupled receptor activity
GO:0004932 mating-type factor pheromone receptor activity
GO:0004933 mating-type a-factor pheromone receptor activity
GO:0004934 mating-type alpha-factor pheromone receptor activity
GO:0005034 osmosensor activity
GO:0005057 receptor signaling protein activity
GO:0005083 small GTPase regulator activity
GO:0005955 calcineurin complex
GO:0008138 protein tyrosine/serine/threonine phosphatase activity
GO:0008158 hedgehog receptor activity
GO:0008287 protein serine/threonine phosphatase complex

GO:0008330 protein tyrosine/threonine phosphatase activity
GO:0008349 MAP kinase kinase kinase activity
calcium-dependent protein serine/threonine phosphatase regulator activity
GO:0008597 activity
GO:0008599 protein phosphatase type 1 regulator activity
GO:0008601 protein phosphatase type 2A regulator activity
GO:0008603 cAMP-dependent protein kinase regulator activity
GO:0008605 protein kinase CK2 regulator activity
GO:0015071 protein phosphatase type 2C activity
GO:0016299 regulator of G-protein signaling activity
GO:0016301 kinase activity
GO:0016538 cyclin-dependent protein kinase regulator activity
GO:0017017 MAP kinase phosphatase activity
GO:0019207 kinase regulator activity
GO:0019209 kinase activator activity
GO:0019211 phosphatase activator activity
GO:0019828 aspartic-type endopeptidase inhibitor activity
GO:0019887 protein kinase regulator activity
GO:0019888 protein phosphatase regulator activity
GO:0019912 cyclin-dependent protein kinase activating kinase activity
GO:0030295 protein kinase activator activity
GO:0030695 GTPase regulator activity
GO:0033550 MAP kinase tyrosine phosphatase activity
GO:0035174 histone serine kinase activity
GO:0043539 protein serine/threonine kinase activator activity

GO Annotations used for identifying DNA-related proteins

GO:0000014 single-stranded DNA specific endodeoxyribonuclease activity
GO:0000049 tRNA binding
GO:0000124 SAGA complex
GO:0000149 SNARE binding
GO:0000175 3'-5'-exoribonuclease activity
GO:0000179 rRNA (adenine-N6,N6-)-dimethyltransferase activity
GO:0000182 rDNA binding
GO:0000213 tRNA-intron endonuclease activity
GO:0000215 tRNA 2'-phosphotransferase activity
GO:0000339 RNA cap binding
GO:0000400 four-way junction DNA binding
GO:0000403 Y-form DNA binding
GO:0003677 DNA binding
GO:0003678 DNA helicase activity
GO:0003680 AT DNA binding
GO:0003682 chromatin binding
GO:0003684 damaged DNA binding
GO:0003688 DNA replication origin binding
GO:0003689 DNA clamp loader activity
GO:0003690 double-stranded DNA binding
GO:0003697 single-stranded DNA binding
GO:0003700 transcription factor activity
GO:0003701 RNA polymerase I transcription factor activity
GO:0003702 RNA polymerase II transcription factor activity
GO:0003704 specific RNA polymerase II transcription factor activity
GO:0003706 ligand-regulated transcription factor activity
GO:0003709 RNA polymerase III transcription factor activity
GO:0003711 transcriptional elongation regulator activity
GO:0003712 transcription cofactor activity
GO:0003713 transcription coactivator activity
GO:0003714 transcription corepressor activity
GO:0003723 RNA binding
GO:0003724 RNA helicase activity
GO:0003729 mRNA binding
GO:0003735 structural constituent of ribosome
GO:0003743 translation initiation factor activity
GO:0003746 translation elongation factor activity
GO:0003747 translation release factor activity
GO:0003887 DNA-directed DNA polymerase activity
GO:0003889 alpha DNA polymerase activity
GO:0003890 beta DNA polymerase activity
GO:0003891 delta DNA polymerase activity
GO:0003893 epsilon DNA polymerase activity
GO:0003894 zeta DNA polymerase activity
GO:0003895 gamma DNA-directed DNA polymerase activity
GO:0003896 DNA primase activity
GO:0003899 DNA-directed RNA polymerase activity
GO:0003905 alkylbase DNA N-glycosylase activity
GO:0003906 DNA-(apurinic or apyrimidinic site) lyase activity
GO:0003908 methylated-DNA-[protein]-cysteine S-methyltransferase activity
GO:0003910 DNA ligase (ATP) activity
GO:0003917 DNA topoisomerase type I activity

GO:0003918 DNA topoisomerase (ATP-hydrolyzing) activity
GO:0004003 ATP-dependent DNA helicase activity
GO:0004004 ATP-dependent RNA helicase activity
GO:0004045 aminoacyl-tRNA hydrolase activity
GO:0004402 histone acetyltransferase activity
GO:0004406 H3/H4 histone acetyltransferase activity
GO:0004407 histone deacetylase activity
GO:0004479 methionyl-tRNA formyltransferase activity
GO:0004482 mRNA (guanine-N7-)-methyltransferase activity
GO:0004484 mRNA guanylyltransferase activity
GO:0004808 tRNA (5-methylaminomethyl-2-thiouridylate)-methyltransferase activity
GO:0004809 tRNA (guanine-N2-)-methyltransferase activity
GO:0004810 tRNA adenylyltransferase activity
GO:0004811 tRNA isopentenyltransferase activity
GO:0004813 alanine-tRNA ligase activity
GO:0004814 arginine-tRNA ligase activity
GO:0004815 aspartate-tRNA ligase activity
GO:0004816 asparagine-tRNA ligase activity
GO:0004817 cysteine-tRNA ligase activity
GO:0004818 glutamate-tRNA ligase activity
GO:0004819 glutamine-tRNA ligase activity
GO:0004820 glycine-tRNA ligase activity
GO:0004821 histidine-tRNA ligase activity
GO:0004822 isoleucine-tRNA ligase activity
GO:0004823 leucine-tRNA ligase activity
GO:0004824 lysine-tRNA ligase activity
GO:0004825 methionine-tRNA ligase activity
GO:0004826 phenylalanine-tRNA ligase activity
GO:0004827 proline-tRNA ligase activity
GO:0004828 serine-tRNA ligase activity
GO:0004829 threonine-tRNA ligase activity
GO:0004830 tryptophan-tRNA ligase activity
GO:0004831 tyrosine-tRNA ligase activity
GO:0004832 valine-tRNA ligase activity
GO:0004844 uracil DNA N-glycosylase activity
GO:0005671 Ada2/Gcn5/Ada3 transcription activator complex
GO:0006608 snRNP protein import into nucleus
GO:0006609 mRNA-binding (hnRNP) protein import into nucleus
GO:0008079 translation termination factor activity
GO:0008094 DNA-dependent ATPase activity
GO:0008134 transcription factor binding
GO:0008135 translation factor activity, nucleic acid binding
GO:0008159 positive transcription elongation factor activity
GO:0008173 RNA methyltransferase activity
GO:0008174 mRNA methyltransferase activity
GO:0008175 tRNA methyltransferase activity
GO:0008193 tRNA guanylyltransferase activity
GO:0008251 tRNA specific adenosine deaminase activity
GO:0008301 DNA bending activity
GO:0008419 RNA lariat debranching enzyme activity
GO:0008534 oxidized purine base lesion DNA N-glycosylase activity
GO:0008650 rRNA (uridine-2'-O-)-methyltransferase activity
GO:0008989 rRNA (guanine-N1-)-methyltransferase activity
GO:0010390 histone monoubiquitination
GO:0015999 eta DNA polymerase activity
GO:0016149 translation release factor activity, codon specific

GO:0016251 general RNA polymerase II transcription factor activity
GO:0016423 tRNA (guanine) methyltransferase activity
GO:0016424 tRNA (guanosine) methyltransferase activity
GO:0016428 tRNA (cytosine-5-)-methyltransferase activity
GO:0016429 tRNA (adenine-N1-)-methyltransferase activity
GO:0016431 tRNA (uridine) methyltransferase activity
GO:0016439 tRNA-pseudouridine synthase activity
GO:0016455 RNA polymerase II transcription mediator activity
GO:0016563 transcriptional activator activity
GO:0016564 transcriptional repressor activity
GO:0016565 general transcriptional repressor activity
GO:0016566 specific transcriptional repressor activity
GO:0016944 RNA polymerase II transcription elongation factor activity
GO:0017005 tyrosyl-DNA phosphodiesterase activity
GO:0017136 NAD-dependent histone deacetylase activity
GO:0017150 tRNA dihydrouridine synthase activity
GO:0019237 centromeric DNA binding
GO:0019843 rRNA binding
GO:0030188 chaperone regulator activity
GO:0030337 DNA polymerase processivity factor activity
GO:0030371 translation repressor activity
GO:0030515 snoRNA binding
GO:0030528 transcription regulator activity
GO:0030620 U2 snRNA binding
GO:0031202 RNA splicing factor activity, transesterification mechanism
GO:0031490 chromatin DNA binding
GO:0032041 NAD-dependent histone deacetylase activity (H3-K14 specific)
GO:0032777 Piccolo NuA4 histone acetyltransferase complex
GO:0033100 NuA3 histone acetyltransferase complex
GO:0035267 NuA4 histone acetyltransferase complex
GO:0042054 histone methyltransferase activity
GO:0042134 rRNA primary transcript binding
GO:0042162 telomeric DNA binding
GO:0042393 histone binding
GO:0042800 histone lysine N-methyltransferase activity (H3-K4 specific)
GO:0043140 ATP-dependent 3' to 5' DNA helicase activity
GO:0043141 ATP-dependent 5' to 3' DNA helicase activity
GO:0043166 H4/H2A histone acetyltransferase activity
GO:0043189 H4/H2A histone acetyltransferase complex
GO:0045129 NAD-independent histone deacetylase activity
GO:0045182 translation regulator activity
GO:0046695 SLIK (SAGA-like) complex
GO:0046969 NAD-dependent histone deacetylase activity (H3-K9 specific)
GO:0046970 NAD-dependent histone deacetylase activity (H4-K16 specific)
GO:0050072 m7G(5')pppN diphosphatase activity
GO:0051500 D-tyrosyl-tRNA(Tyr) deacylase activity
GO:0051864 histone demethylase activity (H3-K36 specific)

GO Annotations used for identifying other, non-metabolic proteins

GO:0000054 ribosome export from nucleus
GO:0000055 ribosomal large subunit export from nucleus
GO:0000056 ribosomal small subunit export from nucleus
GO:0000059 protein import into nucleus, docking
GO:0000060 protein import into nucleus, translocation
GO:0000149 SNARE binding
GO:0000208 nuclear translocation of MAPK during osmolarity sensing
GO:0000268 peroxisome targeting sequence binding
GO:0000290 deadenylation-dependent decapping
GO:0001671 ATPase stimulator activity
GO:0003923 GPI-anchor transamidase activity
GO:0003924 GTPase activity
GO:0004175 endopeptidase activity
GO:0004596 peptide alpha-N-acetyltransferase activity
GO:0004857 enzyme inhibitor activity
GO:0004860 protein kinase inhibitor activity
GO:0004871 signal transducer activity
GO:0005084 Rab escort protein activity
GO:0005085 guanyl-nucleotide exchange factor activity
GO:0005086 ARF guanyl-nucleotide exchange factor activity
GO:0005088 Ras guanyl-nucleotide exchange factor activity
GO:0005089 Rho guanyl-nucleotide exchange factor activity
GO:0005093 Rab GDP-dissociation inhibitor activity
GO:0005094 Rho GDP-dissociation inhibitor activity
GO:0005095 GTPase inhibitor activity
GO:0005096 GTPase activator activity
GO:0005097 Rab GTPase activator activity
GO:0005098 Ran GTPase activator activity
GO:0005099 Ras GTPase activator activity
GO:0005100 Rho GTPase activator activity
GO:0006605 protein targeting
GO:0006606 protein import into nucleus
GO:0006607 NLS-bearing substrate import into nucleus
GO:0006610 ribosomal protein import into nucleus
GO:0006611 protein export from nucleus
GO:0006612 protein targeting to membrane
GO:0006613 cotranslational protein targeting to membrane
GO:0006614 SRP-dependent cotranslational protein targeting to membrane
GO:0006616 SRP-dependent cotranslational protein targeting to membrane,
GO:0006617 SRP-dependent cotranslational protein targeting to membrane, signal
GO:0006617 cognition
GO:0006620 posttranslational protein targeting to membrane
GO:0006623 protein targeting to vacuole
GO:0006625 protein targeting to peroxisome
GO:0006626 protein targeting to mitochondrion
GO:0006627 mitochondrial protein processing
GO:0006886 intracellular protein transport
GO:0007092 anaphase-promoting complex activation during mitotic cell cycle
GO:0008047 enzyme activator activity
GO:0008060 ARF GTPase activator activity
GO:0008139 nuclear localization sequence binding

GO:0008308 voltage-gated ion-selective channel activity
GO:0008320 protein carrier activity
GO:0008538 proteasome activator activity
GO:0008565 protein transporter activity
GO:0015664 nicotinamide mononucleotide permease activity
GO:0016538 cyclin-dependent protein kinase regulator activity
GO:0016558 protein import into peroxisome matrix
GO:0016560 protein import into peroxisome matrix, docking
GO:0016562 protein import into peroxisome matrix, receptor recycling
GO:0016598 protein arginylation
GO:0016925 protein sumoylation
GO:0017112 Rab guanyl-nucleotide exchange factor activity
GO:0019211 phosphatase activator activity
GO:0030150 protein import into mitochondrial matrix
GO:0030189 chaperone activator activity
GO:0030190 chaperone inhibitor activity
GO:0030234 enzyme regulator activity
GO:0030970 retrograde protein transport, ER to cytosol
GO:0031204 posttranslational protein targeting to membrane, translocation
GO:0031386 protein tag
GO:0032258 CVT pathway
GO:0032527 protein exit from endoplasmic reticulum
GO:0042719 mitochondrial intermembrane space protein transporter complex
GO:0042992 negative regulation of transcription factor import into nucleus
GO:0042994 cytoplasmic sequestering of transcription factor
GO:0043001 Golgi to plasma membrane protein transport
protein targeting to vacuole during ubiquitin-dependent protein catabolic
GO:0043328 he MVB pathway
GO:0045039 protein import into mitochondrial inner membrane
GO:0045040 protein import into mitochondrial outer membrane
GO:0045041 protein import into mitochondrial intermembrane space
GO:0045046 protein import into peroxisome membrane
GO:0045047 protein targeting to ER
GO:0048306 calcium-dependent protein binding
GO:0051082 unfolded protein binding

currency metabolites, co-factors removed from the metabolic network

C00001	H ₂ O
C00002	ATP
C00003	NAD ⁺
C00004	NADH
C00005	NADPH
C00006	NADP ⁺
C00007	Oxygen;O ₂
C00008	ADP
C00009	Orthophosphate;Pi
C00010	CoA
C00011	CO ₂
C00013	Pyrophosphate;PPi
C00014	NH ₃
C00015	UDP
C00016	FAD
C00018	Pyridoxalphosphate
C00019	S-Adenosyl-L-methionine; SAM
C00020	AMP
C00021	S-Adenosylhomocysteine; SAH
C00023	Iron
C00027	H ₂ O ₂
C00028	Acceptor
C00030	Reduced acceptor
C00034	Manganese
C00035	GDP
C00038	Zinc
C00044	GTP
C00050	Metal
C00055	CMP
C00061	FMN
C00063	CTP
C00070	Copper
C00075	UTP
C00076	Calcium;Ca ²⁺
C00080	H ⁺
C00105	UMP
C00112	CDP
C00113	PQQ
C00115	Chloride
C00120	Biotin;D-Biotin;VitaminH;CoenzymeR
C00125	Ferricytochromec;Cytochromec ³⁺
C00126	Ferrocyclochromec;Cytochromec ²⁺ ;Reducedcyclochromec
C00138	Reducedferredoxin
C00139	Oxidizedferredoxin
C00144	GMP
C00175	Cobalt;Co ²⁺
C00194	Cobamidecoenzyme
C00205	hn;Light
C00238	Potassium;K ⁺
C00291	Nickel;Ni ²⁺
C01352	FADH ₂