



17/139 maintenance of location  
15/108 maintenance of protein location  
5/16 maintenance of protein localization in organelle  
145/2001 regulation of biological quality  
83/1038 establishment of protein localization  
15/111 modification of morphology or physiology of other organism

**15/61 cell killing**  
**6/12 regulation of fibrinolysis**  
7/31 negative regulation of coagulation  
3/5 negative regulation of fibrinolysis  
14/87 multi-organism reproductive process

**116/1161 macromolecular complex subunit organization**  
8/39 mitotic spindle organization  
**90/983 cell cycle process**  
5/12 mitotic spindle elongation  
51/524 cell division  
3/5 cyclin catabolic process  
14/102 cytokinesis  
9/35 establishment of spindle localization  
7/26 establishment of mitotic spindle localization

**73/297 translation**  
**8/18 formation of translation preinitiation complex**  
**15/77 translational initiation**  
10/53 regulation of translational initiation  
**114/1365 cellular component assembly**  
**89/904 macromolecular complex assembly**  
**49/414 cellular macromolecular complex assembly**  
**22/108 ribonucleoprotein complex subunit organization**

9/48 negative regulation of protein polymerization  
17/118 regulation of protein polymerization  
27/250 regulation of cytoskeleton organization  
12/76 negative regulation of cytoskeleton organization  
21/181 regulation of actin filament-based process  
8/38 actin filament bundle assembly  
148/1963 catabolic process  
8/39 nuclear-transcribed mRNA catabolic process, nonsense-mediated decay  
56/605 macromolecule catabolic process  
4/11 cellular protein catabolic process

**11/32 translational elongation**  
7/22 positive regulation of cell cycle arrest  
8/31 regulation of cell cycle arrest  
**18/111 positive regulation of cell cycle process**  
7/33 negative regulation of G1/S transition of mitotic cell cycle  
35/355 regulation of mitotic cell cycle  
30/302 regulation of cell cycle process  
6/21 signal transduction involved in DNA integrity checkpoint  
56/657 regulation of cell cycle  
20/160 regulation of cell cycle phase transition  
6/21 regulation of ubiquitin-protein ligase involved in mitotic cell cycle  
74/840 cell cycle  
6/17 negative regulation of ubiquitin-protein ligase  
9/42 signal transduction in response to DNA damage  
8/30 DNA damage response, signal transduction by p53 class mediator  
9/48 signal transduction by p53 class mediator

5/12 antigen processing and presentation of exogenous peptide antigen via MHC class I  
**9/21 antigen processing and presentation of peptide antigen via MHC class I**  
11/51 antigen processing and presentation  
5/14 regulation of cellular amino acid metabolic process  
5/17 DNA replication initiation

**12/40 positive regulation of cell morphogenesis involved in differentiation**  
18/151 positive regulation of cell development  
**10/26 positive regulation of epithelial to mesenchymal transition**  
**11/38 regulation of epithelial to mesenchymal transition**  
**16/61 regulation of stem cell differentiation**  
12/69 positive regulation of ERK1 and ERK2 cascade  
7/31 gastrulation  
10/62 regulation of mRNA processing  
10/58 regulation of RNA splicing

**30/140 protein folding**  
**9/30 protein peptidyl-prolyl isomerization**  
**11/44 peptidyl-proline modification**  
6/22 chaperone-mediated protein folding  
4/11 'de novo' protein folding  
5/17 cell-cell recognition  
5/12 binding of sperm to zona pellucida  
12/83 response to endoplasmic reticulum stress  
13/86 response to topologically incorrect protein  
**107/1204 oxidation-reduction process**  
4/9 response to superoxide  
12/75 cell redox homeostasis  
4/7 malate metabolic process

**97/883 organic acid metabolic process**  
**18/76 dicarboxylic acid metabolic process**  
40/397 monocarboxylic acid metabolic process  
9/46 tricarboxylic acid cycle  
13/69 aspartate family amino acid metabolic process  
9/44 aspartate family amino acid biosynthetic process  
7/34 glutamine metabolic process

**54/431 cellular amino acid metabolic process**  
14/87 glutamine family amino acid metabolic process  
136/1752 organonitrogen compound metabolic process  
**40/291 alpha-amino acid metabolic process**  
**5/6 L-serine biosynthetic process**  
5/13 L-serine metabolic process  
**29/168 cellular amino acid biosynthetic process**  
7/34 serine family amino acid biosynthetic process  
85/997 single-organism biosynthetic process  
**44/412 small molecule biosynthetic process**  
**21/117 alpha-amino acid biosynthetic process**  
16/128 sulfur compound biosynthetic process  
4/9 tetrahydrofolate interconversion

22/173 cellular modified amino acid metabolic process  
**9/31 one-carbon metabolic process**  
8/32 glycine metabolic process  
**73/726 carbohydrate metabolic process**  
**12/49 polysaccharide catabolic process**  
15/101 polysaccharide metabolic process  
**21/126 carbohydrate catabolic process**  
19/153 cellular carbohydrate metabolic process  
12/78 glucose metabolic process  
**21/137 monosaccharide metabolic process**  
5/15 pentose-phosphate shunt  
51/518 single-organism carbohydrate metabolic process  
7/31 monosaccharide biosynthetic process  
8/43 peptidyl-asparagine modification  
12/72 hydrogen transport  
11/51 digestion

**p < 0.01**  
**p < 0.05**  
**p < 0.1**