|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Category | Term | Count | % | PValue |
| GOTERM\_BP\_DIRECT | GO:0055114~oxidation-reduction process | 16 | 20.77922 | 5.26E-08 |
| GOTERM\_BP\_DIRECT | GO:0007568~aging | 10 | 12.98701 | 5.57E-08 |
| GOTERM\_BP\_DIRECT | GO:0045766~positive regulation of angiogenesis | 8 | 10.38961 | 8.70E-07 |
| GOTERM\_BP\_DIRECT | GO:0043066~negative regulation of apoptotic process | 13 | 16.88312 | 8.74E-07 |
| GOTERM\_BP\_DIRECT | GO:0044267~cellular protein metabolic process | 8 | 10.38961 | 1.04E-06 |
| GOTERM\_BP\_DIRECT | GO:0045944~positive regulation of transcription from RNA polymerase II promoter | 18 | 23.37662 | 1.36E-06 |
| GOTERM\_BP\_DIRECT | GO:0043567~regulation of insulin-like growth factor receptor signaling pathway | 4 | 5.194805 | 3.08E-06 |
| GOTERM\_BP\_DIRECT | GO:0001666~response to hypoxia | 8 | 10.38961 | 1.26E-05 |
| GOTERM\_BP\_DIRECT | GO:0070374~positive regulation of ERK1 and ERK2 cascade | 8 | 10.38961 | 1.41E-05 |
| GOTERM\_BP\_DIRECT | GO:0050900~leukocyte migration | 7 | 9.090909 | 1.88E-05 |
| GOTERM\_BP\_DIRECT | GO:0006954~inflammatory response | 10 | 12.98701 | 5.19E-05 |
| GOTERM\_BP\_DIRECT | GO:0043065~positive regulation of apoptotic process | 9 | 11.68831 | 6.22E-05 |
| GOTERM\_BP\_DIRECT | GO:0030168~platelet activation | 6 | 7.792208 | 1.73E-04 |
| GOTERM\_BP\_DIRECT | GO:0001938~positive regulation of endothelial cell proliferation | 5 | 6.493506 | 2.68E-04 |
| GOTERM\_BP\_DIRECT | GO:0071347~cellular response to interleukin-1 | 5 | 6.493506 | 2.99E-04 |
| GOTERM\_BP\_DIRECT | GO:0042493~response to drug | 8 | 10.38961 | 4.47E-04 |
| GOTERM\_BP\_DIRECT | GO:0043410~positive regulation of MAPK cascade | 5 | 6.493506 | 4.95E-04 |
| GOTERM\_BP\_DIRECT | GO:0006987~activation of signaling protein activity involved in unfolded protein response | 3 | 3.896104 | 5.56E-04 |
| GOTERM\_BP\_DIRECT | GO:0007165~signal transduction | 15 | 19.48052 | 6.36E-04 |
| GOTERM\_BP\_DIRECT | GO:0035767~endothelial cell chemotaxis | 3 | 3.896104 | 7.13E-04 |
| GOTERM\_BP\_DIRECT | GO:0007595~lactation | 4 | 5.194805 | 9.01E-04 |
| GOTERM\_BP\_DIRECT | GO:0071456~cellular response to hypoxia | 5 | 6.493506 | 9.39E-04 |
| GOTERM\_BP\_DIRECT | GO:0010595~positive regulation of endothelial cell migration | 4 | 5.194805 | 0.001176 |
| GOTERM\_BP\_DIRECT | GO:0010628~positive regulation of gene expression | 7 | 9.090909 | 0.001196 |
| GOTERM\_BP\_DIRECT | GO:0008284~positive regulation of cell proliferation | 9 | 11.68831 | 0.001197 |
| GOTERM\_BP\_DIRECT | GO:0002576~platelet degranulation | 5 | 6.493506 | 0.001221 |
| GOTERM\_BP\_DIRECT | GO:0036499~PERK-mediated unfolded protein response | 3 | 3.896104 | 0.001296 |
| GOTERM\_BP\_DIRECT | GO:0030335~positive regulation of cell migration | 6 | 7.792208 | 0.001474 |
| GOTERM\_BP\_DIRECT | GO:0071222~cellular response to lipopolysaccharide | 5 | 6.493506 | 0.001718 |
| GOTERM\_BP\_DIRECT | GO:0035729~cellular response to hepatocyte growth factor stimulus | 3 | 3.896104 | 0.001776 |
| GOTERM\_BP\_DIRECT | GO:0050829~defense response to Gram-negative bacterium | 4 | 5.194805 | 0.001974 |
| GOTERM\_BP\_DIRECT | GO:1904707~positive regulation of vascular smooth muscle cell proliferation | 3 | 3.896104 | 0.002043 |
| GOTERM\_BP\_DIRECT | GO:0070301~cellular response to hydrogen peroxide | 4 | 5.194805 | 0.002187 |
| GOTERM\_BP\_DIRECT | GO:0043401~steroid hormone mediated signaling pathway | 4 | 5.194805 | 0.002187 |
| GOTERM\_BP\_DIRECT | GO:0008209~androgen metabolic process | 3 | 3.896104 | 0.002328 |
| GOTERM\_BP\_DIRECT | GO:0051092~positive regulation of NF-kappaB transcription factor activity | 5 | 6.493506 | 0.003107 |
| GOTERM\_BP\_DIRECT | GO:0043627~response to estrogen | 4 | 5.194805 | 0.003182 |
| GOTERM\_BP\_DIRECT | GO:0051384~response to glucocorticoid | 4 | 5.194805 | 0.003182 |
| GOTERM\_BP\_DIRECT | GO:0043536~positive regulation of blood vessel endothelial cell migration | 3 | 3.896104 | 0.003289 |
| GOTERM\_BP\_DIRECT | GO:0001525~angiogenesis | 6 | 7.792208 | 0.003397 |
| GOTERM\_BP\_DIRECT | GO:0010629~negative regulation of gene expression | 5 | 6.493506 | 0.003455 |
| GOTERM\_BP\_DIRECT | GO:0043154~negative regulation of cysteine-type endopeptidase activity involved in apoptotic process | 4 | 5.194805 | 0.003768 |
| GOTERM\_BP\_DIRECT | GO:0030855~epithelial cell differentiation | 4 | 5.194805 | 0.003924 |
| GOTERM\_BP\_DIRECT | GO:0006468~protein phosphorylation | 8 | 10.38961 | 0.004533 |
| GOTERM\_BP\_DIRECT | GO:0007155~cell adhesion | 8 | 10.38961 | 0.004697 |
| GOTERM\_BP\_DIRECT | GO:0035924~cellular response to vascular endothelial growth factor stimulus | 3 | 3.896104 | 0.004809 |
| GOTERM\_BP\_DIRECT | GO:0030324~lung development | 4 | 5.194805 | 0.004942 |
| GOTERM\_BP\_DIRECT | GO:0045454~cell redox homeostasis | 4 | 5.194805 | 0.005126 |
| GOTERM\_BP\_DIRECT | GO:0006805~xenobiotic metabolic process | 4 | 5.194805 | 0.005314 |
| GOTERM\_BP\_DIRECT | GO:0001558~regulation of cell growth | 4 | 5.194805 | 0.005702 |
| GOTERM\_BP\_DIRECT | GO:0060338~regulation of type I interferon-mediated signaling pathway | 3 | 3.896104 | 0.006124 |
| GOTERM\_BP\_DIRECT | GO:0040014~regulation of multicellular organism growth | 3 | 3.896104 | 0.006124 |
| GOTERM\_BP\_DIRECT | GO:0032496~response to lipopolysaccharide | 5 | 6.493506 | 0.006523 |
| GOTERM\_BP\_DIRECT | GO:0030307~positive regulation of cell growth | 4 | 5.194805 | 0.006528 |
| GOTERM\_BP\_DIRECT | GO:0042104~positive regulation of activated T cell proliferation | 3 | 3.896104 | 0.006594 |
| GOTERM\_BP\_DIRECT | GO:0017144~drug metabolic process | 3 | 3.896104 | 0.006594 |
| GOTERM\_BP\_DIRECT | GO:0045931~positive regulation of mitotic cell cycle | 3 | 3.896104 | 0.007081 |
| GOTERM\_BP\_DIRECT | GO:2000352~negative regulation of endothelial cell apoptotic process | 3 | 3.896104 | 0.007081 |
| GOTERM\_BP\_DIRECT | GO:0005975~carbohydrate metabolic process | 5 | 6.493506 | 0.008008 |
| GOTERM\_BP\_DIRECT | GO:2000379~positive regulation of reactive oxygen species metabolic process | 3 | 3.896104 | 0.008101 |
| GOTERM\_BP\_DIRECT | GO:0032355~response to estradiol | 4 | 5.194805 | 0.008138 |
| GOTERM\_BP\_DIRECT | GO:0033277~abortive mitotic cell cycle | 2 | 2.597403 | 0.009032 |
| GOTERM\_BP\_DIRECT | GO:0050918~positive chemotaxis | 3 | 3.896104 | 0.010921 |
| GOTERM\_BP\_DIRECT | GO:0045471~response to ethanol | 4 | 5.194805 | 0.012006 |
| GOTERM\_BP\_DIRECT | GO:0045087~innate immune response | 7 | 9.090909 | 0.01319 |
| GOTERM\_BP\_DIRECT | GO:0000302~response to reactive oxygen species | 3 | 3.896104 | 0.013443 |
| GOTERM\_BP\_DIRECT | GO:2000630~positive regulation of miRNA metabolic process | 2 | 2.597403 | 0.013517 |
| GOTERM\_BP\_DIRECT | GO:1901215~negative regulation of neuron death | 3 | 3.896104 | 0.01411 |
| GOTERM\_BP\_DIRECT | GO:0032526~response to retinoic acid | 3 | 3.896104 | 0.01479 |
| GOTERM\_BP\_DIRECT | GO:0008202~steroid metabolic process | 3 | 3.896104 | 0.016193 |
| GOTERM\_BP\_DIRECT | GO:0045785~positive regulation of cell adhesion | 3 | 3.896104 | 0.016193 |
| GOTERM\_BP\_DIRECT | GO:0030968~endoplasmic reticulum unfolded protein response | 3 | 3.896104 | 0.017651 |
| GOTERM\_BP\_DIRECT | GO:0008542~visual learning | 3 | 3.896104 | 0.017651 |
| GOTERM\_BP\_DIRECT | GO:0061419~positive regulation of transcription from RNA polymerase II promoter in response to hypoxia | 2 | 2.597403 | 0.017983 |
| GOTERM\_BP\_DIRECT | GO:0009408~response to heat | 3 | 3.896104 | 0.019937 |
| GOTERM\_BP\_DIRECT | GO:0021762~substantia nigra development | 3 | 3.896104 | 0.020725 |
| GOTERM\_BP\_DIRECT | GO:0042420~dopamine catabolic process | 2 | 2.597403 | 0.022429 |
| GOTERM\_BP\_DIRECT | GO:0018401~peptidyl-proline hydroxylation to 4-hydroxy-L-proline | 2 | 2.597403 | 0.022429 |
| GOTERM\_BP\_DIRECT | GO:0008088~axo-dendritic transport | 2 | 2.597403 | 0.022429 |
| GOTERM\_BP\_DIRECT | GO:0006068~ethanol catabolic process | 2 | 2.597403 | 0.022429 |
| GOTERM\_BP\_DIRECT | GO:2001300~lipoxin metabolic process | 2 | 2.597403 | 0.022429 |
| GOTERM\_BP\_DIRECT | GO:0050821~protein stabilization | 4 | 5.194805 | 0.023783 |
| GOTERM\_BP\_DIRECT | GO:0002933~lipid hydroxylation | 2 | 2.597403 | 0.026854 |
| GOTERM\_BP\_DIRECT | GO:2001200~positive regulation of dendritic cell differentiation | 2 | 2.597403 | 0.026854 |
| GOTERM\_BP\_DIRECT | GO:1903672~positive regulation of sprouting angiogenesis | 2 | 2.597403 | 0.026854 |
| GOTERM\_BP\_DIRECT | GO:0045893~positive regulation of transcription, DNA-templated | 7 | 9.090909 | 0.029047 |
| GOTERM\_BP\_DIRECT | GO:0036498~IRE1-mediated unfolded protein response | 3 | 3.896104 | 0.029294 |
| GOTERM\_BP\_DIRECT | GO:0043406~positive regulation of MAP kinase activity | 3 | 3.896104 | 0.029294 |
| GOTERM\_BP\_DIRECT | GO:0048661~positive regulation of smooth muscle cell proliferation | 3 | 3.896104 | 0.030217 |
| GOTERM\_BP\_DIRECT | GO:0050679~positive regulation of epithelial cell proliferation | 3 | 3.896104 | 0.030217 |
| GOTERM\_BP\_DIRECT | GO:0001933~negative regulation of protein phosphorylation | 3 | 3.896104 | 0.031151 |
| GOTERM\_BP\_DIRECT | GO:0006367~transcription initiation from RNA polymerase II promoter | 4 | 5.194805 | 0.03163 |
| GOTERM\_BP\_DIRECT | GO:0030512~negative regulation of transforming growth factor beta receptor signaling pathway | 3 | 3.896104 | 0.034021 |
| GOTERM\_BP\_DIRECT | GO:0030574~collagen catabolic process | 3 | 3.896104 | 0.034021 |
| GOTERM\_BP\_DIRECT | GO:0046887~positive regulation of hormone secretion | 2 | 2.597403 | 0.035647 |
| GOTERM\_BP\_DIRECT | GO:0042135~neurotransmitter catabolic process | 2 | 2.597403 | 0.035647 |
| GOTERM\_BP\_DIRECT | GO:0071316~cellular response to nicotine | 2 | 2.597403 | 0.035647 |
| GOTERM\_BP\_DIRECT | GO:0044598~doxorubicin metabolic process | 2 | 2.597403 | 0.035647 |
| GOTERM\_BP\_DIRECT | GO:0045630~positive regulation of T-helper 2 cell differentiation | 2 | 2.597403 | 0.035647 |
| GOTERM\_BP\_DIRECT | GO:0033629~negative regulation of cell adhesion mediated by integrin | 2 | 2.597403 | 0.035647 |
| GOTERM\_BP\_DIRECT | GO:0044597~daunorubicin metabolic process | 2 | 2.597403 | 0.035647 |
| GOTERM\_BP\_DIRECT | GO:0032868~response to insulin | 3 | 3.896104 | 0.036991 |
| GOTERM\_BP\_DIRECT | GO:0070327~thyroid hormone transport | 2 | 2.597403 | 0.040013 |
| GOTERM\_BP\_DIRECT | GO:0002281~macrophage activation involved in immune response | 2 | 2.597403 | 0.040013 |
| GOTERM\_BP\_DIRECT | GO:0097267~omega-hydroxylase P450 pathway | 2 | 2.597403 | 0.040013 |
| GOTERM\_BP\_DIRECT | GO:0044342~type B pancreatic cell proliferation | 2 | 2.597403 | 0.040013 |
| GOTERM\_BP\_DIRECT | GO:0050665~hydrogen peroxide biosynthetic process | 2 | 2.597403 | 0.040013 |
| GOTERM\_BP\_DIRECT | GO:0050729~positive regulation of inflammatory response | 3 | 3.896104 | 0.043215 |
| GOTERM\_BP\_DIRECT | GO:0006915~apoptotic process | 7 | 9.090909 | 0.043244 |
| GOTERM\_BP\_DIRECT | GO:0001889~liver development | 3 | 3.896104 | 0.044288 |
| GOTERM\_BP\_DIRECT | GO:0022617~extracellular matrix disassembly | 3 | 3.896104 | 0.046464 |
| GOTERM\_BP\_DIRECT | GO:0031295~T cell costimulation | 3 | 3.896104 | 0.048678 |
| GOTERM\_BP\_DIRECT | GO:0051024~positive regulation of immunoglobulin secretion | 2 | 2.597403 | 0.048688 |
| GOTERM\_BP\_DIRECT | GO:0051279~regulation of release of sequestered calcium ion into cytosol | 2 | 2.597403 | 0.048688 |
| GOTERM\_BP\_DIRECT | GO:0050927~positive regulation of positive chemotaxis | 2 | 2.597403 | 0.048688 |