

Pathway ID and Terms	Counts	GeneRatio	BgRatio	pValue
hsa00190~Oxidative phosphorylation	31	31/496	133/8037	6.50E-11
hsa03010~Ribosome	33	33/496	158/8037	3.50E-10
hsa05012~Parkinson disease	43	43/496	247/8037	3.51E-10
hsa04932~Non-alcoholic fatty liver disease (NAFLD)	28	28/496	149/8037	8.79E-08
hsa05010~Alzheimer disease	45	45/496	334/8037	4.47E-07
hsa04145~Phagosome	27	27/496	152/8037	4.92E-07
hsa05016~Huntington disease	39	39/496	271/8037	5.02E-07
hsa04714~Thermogenesis	34	34/496	231/8037	1.65E-06
hsa05140~Leishmaniasis	17	17/496	77/8037	3.20E-06
hsa04612~Antigen processing and presentation	15	15/496	78/8037	6.82E-05
hsa05134~Legionellosis	12	12/496	57/8037	0.000147
hsa00510~N-Glycan biosynthesis	11	11/496	50/8037	0.000183
hsa05169~Epstein-Barr virus infection	26	26/496	201/8037	0.00025
hsa04723~Retrograde endocannabinoid signaling	21	21/496	148/8037	0.000276
hsa05132~Salmonella infection	26	26/496	214/8037	0.000667
hsa05152~Tuberculosis	23	23/496	180/8037	0.000669
hsa04141~Protein processing in endoplasmic reticulum	21	21/496	167/8037	0.001389
hsa05166~Human T-cell leukemia virus 1 infection	25	25/496	219/8037	0.002047
hsa03060~Protein export	6	6/496	23/8037	0.002193
hsa05144~Malaria	9	9/496	50/8037	0.00312
hsa03040~Spliceosome	18	18/496	149/8037	0.004593
hsa05150~Staphylococcus aureus infection	13	13/496	96/8037	0.005833
hsa05145~Toxoplasmosis	14	14/496	112/8037	0.008751
hsa05162~Measles	16	16/496	138/8037	0.010723
hsa05110~Vibrio cholerae infection	8	8/496	50/8037	0.010759
hsa05323~Rheumatoid arthritis	12	12/496	93/8037	0.011518
hsa04662~B cell receptor signaling pathway	11	11/496	82/8037	0.011542
hsa04216~Ferroptosis	7	7/496	41/8037	0.011772
hsa04380~Osteoclast differentiation	15	15/496	128/8037	0.012076
hsa04213~Longevity regulating pathway - multiple species	9	9/496	62/8037	0.013136
hsa04260~Cardiac muscle contraction	11	11/496	87/8037	0.017528
hsa05131~Shigellosis	23	23/496	236/8037	0.019394
hsa04210~Apoptosis	15	15/496	136/8037	0.020157
hsa00920~Sulfur metabolism	3	3/496	10/8037	0.020232
hsa05216~Thyroid cancer	6	6/496	37/8037	0.024333
hsa05330~Allograft rejection	6	6/496	38/8037	0.027442
hsa04666~Fc gamma R-mediated phagocytosis	11	11/496	93/8037	0.027455
hsa04657~IL-17 signaling pathway	11	11/496	94/8037	0.029438
hsa05416~Viral myocarditis	8	8/496	60/8037	0.030044
hsa00513~Various types of N-glycan biosynthesis	6	6/496	39/8037	0.030803
hsa04068~FoxO signaling pathway	14	14/496	131/8037	0.030836
hsa05164~Influenza A	17	17/496	170/8037	0.032917
hsa04217~Necroptosis	16	16/496	159/8037	0.035927
hsa05163~Human cytomegalovirus infection	21	21/496	225/8037	0.03735
hsa05170~Human immunodeficiency virus 1 infection	20	20/496	212/8037	0.037707
hsa05210~Colorectal cancer	10	10/496	86/8037	0.038273
hsa05332~Graft-versus-host disease	6	6/496	41/8037	0.038306
hsa04330~Notch signaling pathway	7	7/496	53/8037	0.042949
hsa05320~Autoimmune thyroid disease	7	7/496	53/8037	0.042949
hsa05133~Pertussis	9	9/496	76/8037	0.043392
hsa04215~Apoptosis - multiple species	5	5/496	32/8037	0.044413
hsa05321~Inflammatory bowel disease (IBD)	8	8/496	65/8037	0.045468
hsa04940~Type I diabetes mellitus	6	6/496	43/8037	0.04688

hsa04142~Lysosome	13 13/496	128/8037	0.051742
hsa04144~Endocytosis	22 22/496	248/8037	0.053922
hsa03050~Proteasome	6 6/496	45/8037	0.056555
hsa04920~Adipocytokine signaling pathway	8 8/496	69/8037	0.060998
hsa04659~Th17 cell differentiation	11 11/496	107/8037	0.065128
hsa04672~Intestinal immune network for IgA proc	6 6/496	49/8037	0.079249
hsa04966~Collecting duct acid secretion	4 4/496	27/8037	0.081586
hsa04621~NOD-like receptor signaling pathway	16 16/496	181/8037	0.092611
hsa04064~NF-kappa B signaling pathway	10 10/496	104/8037	0.107429
hsa04625~C-type lectin receptor signaling pathw	10 10/496	104/8037	0.107429
hsa00020~Citrate cycle (TCA cycle)	4 4/496	30/8037	0.110528
hsa00030~Pentose phosphate pathway	4 4/496	30/8037	0.110528
hsa03018~RNA degradation	8 8/496	79/8037	0.112855
hsa05222~Small cell lung cancer	9 9/496	92/8037	0.113251
hsa05221~Acute myeloid leukemia	7 7/496	67/8037	0.117624
hsa04928~Parathyroid hormone synthesis, secreti	10 10/496	106/8037	0.117897
hsa03020~RNA polymerase	4 4/496	31/8037	0.121066
hsa05310~Asthma	4 4/496	31/8037	0.121066
hsa05161~Hepatitis B	14 14/496	162/8037	0.126095
hsa04962~Vasopressin-regulated water reabsorpti	5 5/496	44/8037	0.132585
hsa04371~Apelin signaling pathway	12 12/496	137/8037	0.138739
hsa04622~RIG-I-like receptor signaling pathway	7 7/496	70/8037	0.139162
hsa04668~TNF signaling pathway	10 10/496	112/8037	0.152538
hsa04670~Leukocyte transendothelial migration	10 10/496	113/8037	0.158766
hsa01230~Biosynthesis of amino acids	7 7/496	75/8037	0.178913
hsa03030~DNA replication	4 4/496	36/8037	0.179488
hsa04727~GABAergic synapse	8 8/496	89/8037	0.182481
hsa05235~PD-L1 expression and PD-1 checkpoint i	8 8/496	89/8037	0.182481
hsa01200~Carbon metabolism	10 10/496	117/8037	0.184889
hsa04218~Cellular senescence	13 13/496	160/8037	0.188275
hsa04062~Chemokine signaling pathway	15 15/496	189/8037	0.189578
hsa05217~Basal cell carcinoma	6 6/496	63/8037	0.191406
hsa05205~Proteoglycans in cancer	16 16/496	205/8037	0.19745
hsa04658~Th1 and Th2 cell differentiation	8 8/496	92/8037	0.206365
hsa04140~Autophagy - animal	11 11/496	137/8037	0.224635
hsa04066~HIF-1 signaling pathway	9 9/496	109/8037	0.229728
hsa04915~Estrogen signaling pathway	11 11/496	138/8037	0.231618
hsa04530~Tight junction	13 13/496	169/8037	0.243788
hsa04150~mTOR signaling pathway	12 12/496	155/8037	0.24842
hsa05160~Hepatitis C	12 12/496	155/8037	0.24842
hsa04923~Regulation of lipolysis in adipocytes	5 5/496	55/8037	0.250613
hsa05167~Kaposi sarcoma-associated herpesvirus	14 14/496	186/8037	0.25801
hsa05202~Transcriptional misregulation in cance	14 14/496	186/8037	0.25801
hsa05120~Epithelial cell signaling in Helicobac	6 6/496	70/8037	0.262383
hsa05130~Pathogenic Escherichia coli infection	15 15/496	202/8037	0.26485
hsa04010~MAPK signaling pathway	21 21/496	294/8037	0.272991
hsa00480~Glutathione metabolism	5 5/496	57/8037	0.274504
hsa05014~Amyotrophic lateral sclerosis (ALS)	5 5/496	57/8037	0.274504
hsa05203~Viral carcinogenesis	15 15/496	204/8037	0.277312
hsa00630~Glyoxylate and dicarboxylate metabolis	3 3/496	30/8037	0.281687
hsa04115~p53 signaling pathway	6 6/496	72/8037	0.283835
hsa04978~Mineral absorption	5 5/496	58/8037	0.286624
hsa05213~Endometrial cancer	5 5/496	58/8037	0.286624
hsa01524~Platinum drug resistance	6 6/496	73/8037	0.294703

hsa00052~Galactose metabolism	3 3/496	31/8037	0.298896
hsa04620~Toll-like receptor signaling pathway	8 8/496	104/8037	0.311921
hsa05226~Gastric cancer	11 11/496	149/8037	0.313221
hsa04930~Type II diabetes mellitus	4 4/496	46/8037	0.315331
hsa05135~Yersinia infection	9 9/496	120/8037	0.321764
hsa05212~Pancreatic cancer	6 6/496	76/8037	0.327756
hsa05220~Chronic myeloid leukemia	6 6/496	76/8037	0.327756
hsa00600~Sphingolipid metabolism	4 4/496	47/8037	0.3296
hsa00051~Fructose and mannose metabolism	3 3/496	33/8037	0.33344
hsa03410~Base excision repair	3 3/496	33/8037	0.33344
hsa04130~SNARE interactions in vesicular transport	3 3/496	33/8037	0.33344
hsa04623~Cytosolic DNA-sensing pathway	5 5/496	63/8037	0.348384
hsa00270~Cysteine and methionine metabolism	4 4/496	49/8037	0.35822
hsa05020~Prion diseases	3 3/496	35/8037	0.367913
hsa00500~Starch and sucrose metabolism	3 3/496	36/8037	0.385042
hsa05223~Non-small cell lung cancer	5 5/496	66/8037	0.385859
hsa04913~Ovarian steroidogenesis	4 4/496	51/8037	0.386818
hsa05143~African trypanosomiasis	3 3/496	37/8037	0.402062
hsa04640~Hematopoietic cell lineage	7 7/496	99/8037	0.411883
hsa03430~Mismatch repair	2 2/496	23/8037	0.419603
hsa04015~Rap1 signaling pathway	14 14/496	210/8037	0.422226
hsa05224~Breast cancer	10 10/496	147/8037	0.422355
hsa05230~Central carbon metabolism in cancer	5 5/496	69/8037	0.423219
hsa04916~Melanogenesis	7 7/496	101/8037	0.432427
hsa00534~Glycosaminoglycan biosynthesis - heparan sulfate	2 2/496	24/8037	0.441211
hsa05142~Chagas disease (American trypanosomiasis)	7 7/496	102/8037	0.442666
hsa05146~Amoebiasis	7 7/496	102/8037	0.442666
hsa04071~Sphingolipid signaling pathway	8 8/496	119/8037	0.454325
hsa04935~Growth hormone synthesis, secretion and action	8 8/496	119/8037	0.454325
hsa04022~cGMP-PKG signaling pathway	11 11/496	167/8037	0.456748
hsa04540~Gap junction	6 6/496	88/8037	0.461909
hsa04014~Ras signaling pathway	15 15/496	232/8037	0.464661
hsa05225~Hepatocellular carcinoma	11 11/496	168/8037	0.464758
hsa05219~Bladder cancer	3 3/496	41/8037	0.468546
hsa04211~Longevity regulating pathway	6 6/496	89/8037	0.472915
hsa04950~Maturity onset diabetes of the young	2 2/496	26/8037	0.483048
hsa04918~Thyroid hormone synthesis	5 5/496	74/8037	0.48439
hsa04934~Cushing syndrome	10 10/496	155/8037	0.489692
hsa04910~Insulin signaling pathway	9 9/496	139/8037	0.490792
hsa05418~Fluid shear stress and atherosclerosis	9 9/496	139/8037	0.490792
hsa05032~Morphine addiction	6 6/496	91/8037	0.49473
hsa00062~Fatty acid elongation	2 2/496	27/8037	0.503229
hsa00130~Ubiquinone and other terpenoid-quinone biosynthesis	1 1/496	11/8037	0.503992
hsa04912~GnRH signaling pathway	6 6/496	93/8037	0.516236
hsa04310~Wnt signaling pathway	10 10/496	160/8037	0.530859
hsa04926~Relaxin signaling pathway	8 8/496	129/8037	0.546973
hsa04630~JAK-STAT signaling pathway	10 10/496	162/8037	0.547017
hsa00590~Arachidonic acid metabolism	4 4/496	63/8037	0.550716
hsa05168~Herpes simplex virus 1 infection	30 30/496	491/8037	0.552005
hsa00230~Purine metabolism	8 8/496	130/8037	0.555911
hsa03420~Nucleotide excision repair	3 3/496	47/8037	0.561408
hsa04650~Natural killer cell mediated cytotoxicity	8 8/496	131/8037	0.564776
hsa04072~Phospholipase D signaling pathway	9 9/496	148/8037	0.567877
hsa04514~Cell adhesion molecules (CAMs)	9 9/496	148/8037	0.567877

hsa00564~Glycerophospholipid metabolism	6 6/496	98/8037	0.568338
hsa04137~Mitophagy - animal	4 4/496	65/8037	0.575832
hsa00520~Amino sugar and nucleotide sugar metabol	3 3/496	48/8037	0.575908
hsa04136~Autophagy - other	2 2/496	32/8037	0.596175
hsa00330~Arginine and proline metabolism	3 3/496	50/8037	0.603993
hsa04340~Hedgehog signaling pathway	3 3/496	50/8037	0.603993
hsa05322~Systemic lupus erythematosus	8 8/496	136/8037	0.607873
hsa04610~Complement and coagulation cascades	5 5/496	85/8037	0.609218
hsa00010~Glycolysis / Gluconeogenesis	4 4/496	68/8037	0.611969
hsa04921~Oxytocin signaling pathway	9 9/496	154/8037	0.616374
hsa04152~AMPK signaling pathway	7 7/496	120/8037	0.616554
hsa05211~Renal cell carcinoma	4 4/496	69/8037	0.623584
hsa04922~Glucagon signaling pathway	6 6/496	106/8037	0.645548
hsa04110~Cell cycle	7 7/496	124/8037	0.651071
hsa03460~Fanconi anemia pathway	3 3/496	54/8037	0.656367
hsa04976~Bile secretion	4 4/496	72/8037	0.657088
hsa00360~Phenylalanine metabolism	1 1/496	17/8037	0.661771
hsa00450~Selenocompound metabolism	1 1/496	17/8037	0.661771
hsa00910~Nitrogen metabolism	1 1/496	17/8037	0.661771
hsa05100~Bacterial invasion of epithelial cells	4 4/496	73/8037	0.667799
hsa03013~RNA transport	10 10/496	180/8037	0.680867
hsa00511~Other glycan degradation	1 1/496	18/8037	0.682689
hsa01210~2-Oxocarboxylic acid metabolism	1 1/496	18/8037	0.682689
hsa05214~Glioma	4 4/496	75/8037	0.688528
hsa05340~Primary immunodeficiency	2 2/496	38/8037	0.689728
hsa04350~TGF-beta signaling pathway	5 5/496	94/8037	0.697141
hsa04971~Gastric acid secretion	4 4/496	76/8037	0.698544
hsa00531~Glycosaminoglycan degradation	1 1/496	19/8037	0.702316
hsa00770~Pantothenate and CoA biosynthesis	1 1/496	19/8037	0.702316
hsa00620~Pyruvate metabolism	2 2/496	39/8037	0.703461
hsa04724~Glutamatergic synapse	6 6/496	114/8037	0.713826
hsa00260~Glycine, serine and threonine metaboli	2 2/496	40/8037	0.716684
hsa04721~Synaptic vesicle cycle	4 4/496	78/8037	0.717878
hsa00100~Steroid biosynthesis	1 1/496	20/8037	0.720731
hsa00532~Glycosaminoglycan biosynthesis - chonc	1 1/496	20/8037	0.720731
hsa04713~Circadian entrainment	5 5/496	97/8037	0.723219
hsa03440~Homologous recombination	2 2/496	41/8037	0.72941
hsa01522~Endocrine resistance	5 5/496	98/8037	0.731546
hsa05231~Choline metabolism in cancer	5 5/496	98/8037	0.731546
hsa00561~Glycerolipid metabolism	3 3/496	61/8037	0.735625
hsa00220~Arginine biosynthesis	1 1/496	21/8037	0.738009
hsa04070~Phosphatidylinositol signaling system	5 5/496	99/8037	0.73969
hsa00860~Porphyrin and chlorophyll metabolism	2 2/496	42/8037	0.741647
hsa05165~Human papillomavirus infection	18 18/496	330/8037	0.742768
hsa04120~Ubiquitin mediated proteolysis	7 7/496	136/8037	0.742869
hsa04061~Viral protein interaction with cytohir	5 5/496	100/8037	0.747652
hsa04750~Inflammatory mediator regulation of Tf	5 5/496	100/8037	0.747652
hsa04722~Neurotrophin signaling pathway	6 6/496	119/8037	0.751638
hsa04975~Fat digestion and absorption	2 2/496	43/8037	0.753408
hsa00900~Terpenoid backbone biosynthesis	1 1/496	22/8037	0.75422
hsa04810~Regulation of actin cytoskeleton	11 11/496	213/8037	0.772379
hsa03022~Basal transcription factors	2 2/496	45/8037	0.775551
hsa04012~ErbB signaling pathway	4 4/496	85/8037	0.77831
hsa04611~Platelet activation	6 6/496	124/8037	0.785693

hsa04024~cAMP signaling pathway	11	11/496	216/8037	0.78758
hsa00830~Retinol metabolism	3	3/496	67/8037	0.791441
hsa00514~Other types of O-glycan biosynthesis	2	2/496	47/8037	0.795937
hsa00563~Glycosylphosphatidylinositol (GPI)-anc	1	1/496	25/8037	0.797089
hsa04664~Fc epsilon RI signaling pathway	3	3/496	68/8037	0.799724
hsa04931~Insulin resistance	5	5/496	108/8037	0.804924
hsa04924~Renin secretion	3	3/496	69/8037	0.80773
hsa05030~Cocaine addiction	2	2/496	49/8037	0.81467
hsa04917~Prolactin signaling pathway	3	3/496	70/8037	0.815465
hsa01040~Biosynthesis of unsaturated fatty acid	1	1/496	27/8037	0.821436
hsa03015~mRNA surveillance pathway	4	4/496	91/8037	0.821554
hsa04970~Salivary secretion	4	4/496	91/8037	0.821554
hsa04520~Adherens junction	3	3/496	71/8037	0.822935
hsa04979~Cholesterol metabolism	2	2/496	50/8037	0.823448
hsa05218~Melanoma	3	3/496	72/8037	0.830146
hsa04744~Phototransduction	1	1/496	28/8037	0.832493
hsa00562~Inositol phosphate metabolism	3	3/496	74/8037	0.843815
hsa04726~Serotonergic synapse	5	5/496	115/8037	0.846145
hsa04961~Endocrine and other factor-regulated c	2	2/496	53/8037	0.847584
hsa00410~beta-Alanine metabolism	1	1/496	31/8037	0.86173
hsa01523~Antifolate resistance	1	1/496	31/8037	0.86173
hsa04710~Circadian rhythm	1	1/496	31/8037	0.86173
hsa05412~Arrhythmogenic right ventricular cardi	3	3/496	77/8037	0.862529
hsa04919~Thyroid hormone signaling pathway	5	5/496	119/8037	0.866291
hsa05206~MicroRNAs in cancer	15	15/496	310/8037	0.86981
hsa04933~AGE-RAGE signaling pathway in diabetic	4	4/496	100/8037	0.873176
hsa00983~Drug metabolism - other enzymes	3	3/496	79/8037	0.873885
hsa00240~Pyrimidine metabolism	2	2/496	57/8037	0.8751
hsa04550~Signaling pathways regulating pluripot	6	6/496	143/8037	0.883334
hsa04370~VEGF signaling pathway	2	2/496	59/8037	0.887073
hsa05204~Chemical carcinogenesis	3	3/496	83/8037	0.894135
hsa00310~Lysine degradation	2	2/496	61/8037	0.897976
hsa00250~Alanine, aspartate and glutamate metabol	1	1/496	36/8037	0.899582
hsa00350~Tyrosine metabolism	1	1/496	36/8037	0.899582
hsa00760~Nicotinate and nicotinamide metabolism	1	1/496	37/8037	0.905807
hsa04911~Insulin secretion	3	3/496	86/8037	0.907356
hsa04927~Cortisol synthesis and secretion	2	2/496	65/8037	0.916902
hsa04270~Vascular smooth muscle contraction	5	5/496	132/8037	0.917066
hsa04728~Dopaminergic synapse	5	5/496	132/8037	0.917066
hsa05033~Nicotine addiction	1	1/496	40/8037	0.922265
hsa04725~Cholinergic synapse	4	4/496	113/8037	0.924813
hsa04720~Long-term potentiation	2	2/496	67/8037	0.92508
hsa04390~Hippo signaling pathway	6	6/496	157/8037	0.928573
hsa05031~Amphetamine addiction	2	2/496	69/8037	0.932495
hsa04360~Axon guidance	7	7/496	181/8037	0.936339
hsa05414~Dilated cardiomyopathy (DCM)	3	3/496	96/8037	0.941319
hsa02010~ABC transporters	1	1/496	45/8037	0.943566
hsa05215~Prostate cancer	3	3/496	97/8037	0.943991
hsa04925~Aldosterone synthesis and secretion	3	3/496	98/8037	0.94655
hsa04914~Progesterone-mediated oocyte maturatic	3	3/496	99/8037	0.949
hsa00565~Ether lipid metabolism	1	1/496	47/8037	0.950354
hsa04973~Carbohydrate digestion and absorption	1	1/496	47/8037	0.950354
hsa03320~PPAR signaling pathway	2	2/496	76/8037	0.95334
hsa04261~Adrenergic signaling in cardiomyocytes	5	5/496	149/8037	0.957488

hsa04660~T cell receptor signaling pathway	3 3/496	104/8037	0.959756
hsa01521~EGFR tyrosine kinase inhibitor resist	2 2/496	79/8037	0.960249
hsa04114~Oocyte meiosis	4 4/496	128/8037	0.960351
hsa04146~Peroxisome	2 2/496	83/8037	0.967951
hsa03008~Ribosome biogenesis in eukaryotes	3 3/496	111/8037	0.971285
hsa01212~Fatty acid metabolism	1 1/496	57/8037	0.973855
hsa04060~Cytokine-cytokine receptor interactior	11 11/496	294/8037	0.977119
hsa04730~Long-term depression	1 1/496	60/8037	0.978434
hsa04020~Calcium signaling pathway	6 6/496	193/8037	0.982308
hsa04929~GnRH secretion	1 1/496	64/8037	0.983319
hsa04510~Focal adhesion	6 6/496	199/8037	0.986201
hsa04151~PI3K-Akt signaling pathway	13 13/496	354/8037	0.987606
hsa04972~Pancreatic secretion	2 2/496	102/8037	0.988733
hsa00982~Drug metabolism - cytochrome P450	1 1/496	72/8037	0.990024
hsa00980~Metabolism of xenobiotics by cytochron	1 1/496	77/8037	0.992767
hsa04742~Taste transduction	1 1/496	83/8037	0.995084
hsa04512~ECM-receptor interaction	1 1/496	88/8037	0.996437
hsa05410~Hypertrophic cardiomyopathy (HCM)	1 1/496	90/8037	0.996868
hsa05034~Alcoholism	4 4/496	187/8037	0.997566
hsa04974~Protein digestion and absorpition	1 1/496	95/8037	0.997731
hsa04080~Neuroactive ligand-receptor interactic	7 7/496	340/8037	0.999932
hsa04740~Olfactory transduction	4 4/496	448/8037	1

FDR	foldEnrichment
1.89E-08	3.776786
3.41E-08	3.384302
3.41E-08	2.820875
6.40E-06	3.044977
2.09E-05	2.183124
2.09E-05	2.878276
2.09E-05	2.331888
5.99E-05	2.38495
0.000104	3.577425
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0.003887	3.41129
0.004436	3.564798
0.005595	2.095992
0.005727	2.299164
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