

## KEGG Mapper Reconstruction Result

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### Metabolism

#### Global and overview maps

- [01100 Metabolic pathways \(178\)](#)
- [01110 Biosynthesis of secondary metabolites \(102\)](#)
- [01120 Microbial metabolism in diverse environments \(59\)](#)
- [01200 Carbon metabolism \(43\)](#)
- [01210 2-Oxocarboxylic acid metabolism \(9\)](#)
- [01212 Fatty acid metabolism \(8\)](#)
- [01230 Biosynthesis of amino acids \(29\)](#)
- [01250 Biosynthesis of nucleotide sugars \(10\)](#)
- [01240 Biosynthesis of cofactors \(14\)](#)
- [01220 Degradation of aromatic compounds \(2\)](#)

#### Carbohydrate metabolism

- [00010 Glycolysis / Gluconeogenesis \(20\)](#)
- [00020 Citrate cycle \(TCA cycle\) \(13\)](#)
- [00030 Pentose phosphate pathway \(9\)](#)
- [00040 Pentose and glucuronate interconversions \(4\)](#)
- [00051 Fructose and mannose metabolism \(7\)](#)
- [00052 Galactose metabolism \(6\)](#)
- [00053 Ascorbate and aldarate metabolism \(6\)](#)
- [00500 Starch and sucrose metabolism \(12\)](#)
- [00520 Amino sugar and nucleotide sugar metabolism \(15\)](#)
- [00620 Pyruvate metabolism \(18\)](#)
- [00630 Glyoxylate and dicarboxylate metabolism \(13\)](#)
- [00640 Propanoate metabolism \(5\)](#)
- [00650 Butanoate metabolism \(4\)](#)
- [00562 Inositol phosphate metabolism \(1\)](#)

#### Energy metabolism

- [00190 Oxidative phosphorylation \(19\)](#)
- [00195 Photosynthesis \(9\)](#)
- [00196 Photosynthesis - antenna proteins \(3\)](#)
- [00710 Carbon fixation in photosynthetic organisms \(14\)](#)
- [00720 Carbon fixation pathways in prokaryotes \(6\)](#)
- [00680 Methane metabolism \(11\)](#)
- [00910 Nitrogen metabolism \(4\)](#)
- [00920 Sulfur metabolism \(2\)](#)

#### Lipid metabolism

- [00061 Fatty acid biosynthesis \(5\)](#)
- [00071 Fatty acid degradation \(8\)](#)
- [00073 Cutin, suberine and wax biosynthesis \(1\)](#)
- [00100 Steroid biosynthesis \(1\)](#)
- [00561 Glycerolipid metabolism \(3\)](#)
- [00564 Glycerophospholipid metabolism \(1\)](#)
- [00565 Ether lipid metabolism \(1\)](#)
- [00590 Arachidonic acid metabolism \(2\)](#)
- [00591 Linoleic acid metabolism \(1\)](#)
- [00592 alpha-Linolenic acid metabolism \(7\)](#)
- [01040 Biosynthesis of unsaturated fatty acids \(1\)](#)

#### Nucleotide metabolism

- [00230 Purine metabolism \(7\)](#)
- [00240 Pyrimidine metabolism \(4\)](#)

#### Amino acid metabolism

- [00250 Alanine, aspartate and glutamate metabolism \(12\)](#)
- [00260 Glycine, serine and threonine metabolism \(8\)](#)
- [00270 Cysteine and methionine metabolism \(14\)](#)
- [00280 Valine, leucine and isoleucine degradation \(3\)](#)

00290 Valine, leucine and isoleucine biosynthesis (2)  
00300 Lysine biosynthesis (1)  
00310 Lysine degradation (5)  
00220 Arginine biosynthesis (8)  
00330 Arginine and proline metabolism (9)  
00340 Histidine metabolism (2)  
00350 Tyrosine metabolism (7)  
00360 Phenylalanine metabolism (5)  
00380 Tryptophan metabolism (6)  
00400 Phenylalanine, tyrosine and tryptophan biosynthesis (4)  
Metabolism of other amino acids  
00410 beta-Alanine metabolism (7)  
00430 Taurine and hypotaurine metabolism (1)  
00450 Selenocompound metabolism (2)  
00460 Cyanoamino acid metabolism (3)  
00470 D-Amino acid metabolism (1)  
00480 Glutathione metabolism (8)  
Glycan biosynthesis and metabolism  
00510 N-Glycan biosynthesis (1)  
00513 Various types of N-glycan biosynthesis (2)  
00531 Glycosaminoglycan degradation (1)  
00603 Glycosphingolipid biosynthesis - globo and isoglobo series (1)  
00604 Glycosphingolipid biosynthesis - ganglio series (1)  
00541 O-Antigen nucleotide sugar biosynthesis (2)  
00511 Other glycan degradation (2)  
Metabolism of cofactors and vitamins  
00730 Thiamine metabolism (1)  
00770 Pantothenate and CoA biosynthesis (4)  
00780 Biotin metabolism (2)  
00790 Folate biosynthesis (1)  
00670 One carbon pool by folate (2)  
00830 Retinol metabolism (1)  
00860 Porphyrin metabolism (1)  
00130 Ubiquinone and other terpenoid-quinone biosynthesis (2)  
Metabolism of terpenoids and polyketides  
00900 Terpenoid backbone biosynthesis (5)  
00981 Insect hormone biosynthesis (1)  
00903 Limonene and pinene degradation (1)  
01051 Biosynthesis of ansamycins (1)  
Biosynthesis of other secondary metabolites  
00940 Phenylpropanoid biosynthesis (7)  
00941 Flavonoid biosynthesis (3)  
00943 Isoflavonoid biosynthesis (5)  
00950 Isoquinoline alkaloid biosynthesis (4)  
00960 Tropane, piperidine and pyridine alkaloid biosynthesis (4)  
00232 Caffeine metabolism (1)  
00521 Streptomycin biosynthesis (2)  
00524 Neomycin, kanamycin and gentamicin biosynthesis (1)  
00333 Prodigiosin biosynthesis (1)  
00254 Aflatoxin biosynthesis (1)  
00999 Biosynthesis of various plant secondary metabolites (3)  
Xenobiotics biodegradation and metabolism  
00362 Benzoate degradation (1)  
00364 Fluorobenzoate degradation (1)  
00625 Chloroalkane and chloroalkene degradation (2)  
00361 Chlorocyclohexane and chlorobenzene degradation (1)  
00623 Toluene degradation (1)  
00643 Styrene degradation (1)  
00930 Caprolactam degradation (1)  
00626 Naphthalene degradation (1)  
00980 Metabolism of xenobiotics by cytochrome P450 (2)  
00982 Drug metabolism - cytochrome P450 (2)  
00983 Drug metabolism - other enzymes (4)

## Genetic Information Processing

### Transcription

[03040 Spliceosome \(2\)](#)

### Translation

[03010 Ribosome \(32\)](#)

[00970 Aminoacyl-tRNA biosynthesis \(5\)](#)

[03013 Nucleocytoplasmic transport \(4\)](#)

[03015 mRNA surveillance pathway \(2\)](#)

[03008 Ribosome biogenesis in eukaryotes \(2\)](#)

### Folding, sorting and degradation

[04141 Protein processing in endoplasmic reticulum \(12\)](#)

[04130 SNARE interactions in vesicular transport \(2\)](#)

[04120 Ubiquitin mediated proteolysis \(3\)](#)

[03050 Proteasome \(11\)](#)

[03018 RNA degradation \(4\)](#)

## Environmental Information Processing

### Signal transduction

[02020 Two-component system \(3\)](#)

[04010 MAPK signaling pathway \(1\)](#)

[04013 MAPK signaling pathway - fly \(1\)](#)

[04016 MAPK signaling pathway - plant \(3\)](#)

[04011 MAPK signaling pathway - yeast \(1\)](#)

[04014 Ras signaling pathway \(1\)](#)

[04310 Wnt signaling pathway \(1\)](#)

[04340 Hedgehog signaling pathway \(1\)](#)

[04341 Hedgehog signaling pathway - fly \(2\)](#)

[04350 TGF-beta signaling pathway \(2\)](#)

[04390 Hippo signaling pathway \(2\)](#)

[04391 Hippo signaling pathway - fly \(2\)](#)

[04371 Apelin signaling pathway \(1\)](#)

[04066 HIF-1 signaling pathway \(8\)](#)

[04068 FoxO signaling pathway \(1\)](#)

[04020 Calcium signaling pathway \(2\)](#)

[04072 Phospholipase D signaling pathway \(2\)](#)

[04071 Sphingolipid signaling pathway \(2\)](#)

[04024 cAMP signaling pathway \(2\)](#)

[04022 cGMP-PKG signaling pathway \(2\)](#)

[04151 PI3K-Akt signaling pathway \(4\)](#)

[04152 AMPK signaling pathway \(5\)](#)

[04150 mTOR signaling pathway \(5\)](#)

[04075 Plant hormone signal transduction \(2\)](#)

## Cellular Processes

### Transport and catabolism

[04144 Endocytosis \(7\)](#)

[04145 Phagosome \(8\)](#)

[04142 Lysosome \(4\)](#)

[04146 Peroxisome \(6\)](#)

[04140 Autophagy - animal \(2\)](#)

[04138 Autophagy - yeast \(3\)](#)

[04137 Mitophagy - animal \(1\)](#)

### Cell growth and death

[04110 Cell cycle \(2\)](#)

[04111 Cell cycle - yeast \(2\)](#)

[04113 Meiosis - yeast \(1\)](#)

[04114 Oocyte meiosis \(3\)](#)

[04210 Apoptosis \(2\)](#)

[04216 Ferroptosis \(3\)](#)

[04217 Necroptosis \(7\)](#)

[04115 p53 signaling pathway \(1\)](#)

[04218 Cellular senescence \(3\)](#)

Cellular community - eukaryotes  
04530 Tight junction (3)  
04540 Gap junction (2)  
Cellular community - prokaryotes  
02024 Quorum sensing (2)  
02026 Biofilm formation - Escherichia coli (1)  
Cell motility  
04810 Regulation of actin cytoskeleton (1)

## Organismal Systems

Immune system  
04613 Neutrophil extracellular trap formation (6)  
04621 NOD-like receptor signaling pathway (3)  
04612 Antigen processing and presentation (3)  
04657 IL-17 signaling pathway (1)  
04666 Fc gamma R-mediated phagocytosis (2)  
Endocrine system  
04910 Insulin signaling pathway (4)  
04922 Glucagon signaling pathway (6)  
04920 Adipocytokine signaling pathway (1)  
03320 PPAR signaling pathway (2)  
04912 GnRH signaling pathway (1)  
04915 Estrogen signaling pathway (3)  
04921 Oxytocin signaling pathway (1)  
04918 Thyroid hormone synthesis (3)  
04919 Thyroid hormone signaling pathway (1)  
04928 Parathyroid hormone synthesis, secretion and action (2)  
04614 Renin-angiotensin system (1)  
Circulatory system  
04260 Cardiac muscle contraction (3)  
04261 Adrenergic signaling in cardiomyocytes (1)  
Digestive system  
04972 Pancreatic secretion (2)  
04973 Carbohydrate digestion and absorption (1)  
04974 Protein digestion and absorption (1)  
04975 Fat digestion and absorption (2)  
04979 Cholesterol metabolism (2)  
Excretory system  
04962 Vasopressin-regulated water reabsorption (1)  
04961 Endocrine and other factor-regulated calcium reabsorption (1)  
04964 Proximal tubule bicarbonate reclamation (2)  
04966 Collecting duct acid secretion (4)  
Nervous system  
04724 Glutamatergic synapse (2)  
04727 GABAergic synapse (2)  
04728 Dopaminergic synapse (1)  
04730 Long-term depression (1)  
04723 Retrograde endocannabinoid signaling (5)  
04721 Synaptic vesicle cycle (5)  
04722 Neurotrophin signaling pathway (1)  
Development and regeneration  
04360 Axon guidance (1)  
Aging  
04211 Longevity regulating pathway (1)  
04212 Longevity regulating pathway - worm (4)  
04213 Longevity regulating pathway - multiple species (4)  
Environmental adaptation  
04710 Circadian rhythm (1)  
04712 Circadian rhythm - plant (1)  
04714 Thermogenesis (13)  
04626 Plant-pathogen interaction (5)

## Human Diseases

## Cancer: overview

- [05200](#) Pathways in cancer (4)
- [05202](#) Transcriptional misregulation in cancer (1)
- [05205](#) Proteoglycans in cancer (1)
- [05204](#) Chemical carcinogenesis - DNA adducts (1)
- [05207](#) Chemical carcinogenesis - receptor activation (3)
- [05208](#) Chemical carcinogenesis - reactive oxygen species (18)
- [05203](#) Viral carcinogenesis (5)
- [05230](#) Central carbon metabolism in cancer (5)
- [05231](#) Choline metabolism in cancer (1)

## Cancer: specific types

- [05212](#) Pancreatic cancer (1)
- [05225](#) Hepatocellular carcinoma (1)
- [05215](#) Prostate cancer (1)

## Infectious disease: viral

- [05166](#) Human T-cell leukemia virus 1 infection (4)
- [05170](#) Human immunodeficiency virus 1 infection (2)
- [05160](#) Hepatitis C (2)
- [05171](#) Coronavirus disease - COVID-19 (32)
- [05164](#) Influenza A (3)
- [05162](#) Measles (2)
- [05169](#) Epstein-Barr virus infection (3)
- [05165](#) Human papillomavirus infection (7)

## Infectious disease: bacterial

- [05110](#) Vibrio cholerae infection (5)
- [05120](#) Epithelial cell signaling in Helicobacter pylori infection (4)
- [05130](#) Pathogenic Escherichia coli infection (7)
- [05132](#) Salmonella infection (9)
- [05131](#) Shigellosis (4)
- [05133](#) Pertussis (1)
- [05134](#) Legionellosis (7)
- [05152](#) Tuberculosis (3)

## Infectious disease: parasitic

- [05146](#) Amoebiasis (2)
- [05145](#) Toxoplasmosis (1)
- [05140](#) Leishmaniasis (1)
- [05142](#) Chagas disease (1)

## Immune disease

- [05322](#) Systemic lupus erythematosus (4)
- [05323](#) Rheumatoid arthritis (4)

## Neurodegenerative disease

- [05010](#) Alzheimer disease (27)
- [05012](#) Parkinson disease (28)
- [05014](#) Amyotrophic lateral sclerosis (29)
- [05016](#) Huntington disease (29)
- [05017](#) Spinocerebellar ataxia (13)
- [05020](#) Prion disease (29)
- [05022](#) Pathways of neurodegeneration - multiple diseases (31)

## Substance dependence

- [05034](#) Alcoholism (4)

## Cardiovascular disease

- [05417](#) Lipid and atherosclerosis (4)
- [05418](#) Fluid shear stress and atherosclerosis (2)
- [05415](#) Diabetic cardiomyopathy (16)

## Endocrine and metabolic disease

- [04930](#) Type II diabetes mellitus (2)
- [04940](#) Type I diabetes mellitus (2)
- [04936](#) Alcoholic liver disease (5)
- [04932](#) Non-alcoholic fatty liver disease (9)
- [04931](#) Insulin resistance (1)

## Drug resistance: antineoplastic

- [01521](#) EGFR tyrosine kinase inhibitor resistance (1)
- [01524](#) Platinum drug resistance (1)
- [01523](#) Antifolate resistance (1)

