

Figure S5.

H-Inv KEGG Analysis Results (Images of KEGG Pathways)

The images illustrate the metabolic pathways of KEGG database based on the EC number assignments to H-Inv proteins.

#1 Carbohydrate Metabolism

- [00010](#) Glycolysis / Gluconeogenesis
- [00020](#) Citrate cycle (TCA cycle)
- [00030](#) Pentose phosphate pathway
- [00031](#) Inositol metabolism
- [00040](#) Pentose and glucuronate interconversions
- [00051](#) Fructose and mannose metabolism
- [00052](#) Galactose metabolism
- [00053](#) Ascorbate and aldarate metabolism
- [00620](#) Pyruvate metabolism
- [00630](#) Glyoxylate and dicarboxylate metabolism
- [00640](#) Propanoate metabolism
- [00650](#) Butanoate metabolism
- [00660](#) C5-Branched dibasic acid metabolism

#2 Energy Metabolism

- [00190](#) Oxidative phosphorylation
- [00193](#) ATP synthesis
- [00195](#) Photosynthesis
- [00680](#) Methane metabolism
- [00710](#) Carbon fixation
- [00720](#) Reductive carboxylate cycle (CO₂ fixation)
- [00910](#) Nitrogen metabolism
- [00920](#) Sulfur metabolism

#3 Lipid Metabolism

- [00061](#) Fatty acid biosynthesis (path 1)
- [00062](#) Fatty acid biosynthesis (path 2)
- [00071](#) Fatty acid metabolism
- [00072](#) Synthesis and degradation of ketone bodies
- [00100](#) Sterol biosynthesis
- [00120](#) Bile acid biosynthesis
- [00140](#) C21-Steroid hormone metabolism
- [00150](#) Androgen and estrogen metabolism

#4 Nucleotide Metabolism

- [00230](#) Purine metabolism
- [00240](#) Pyrimidine metabolism
- [00520](#) Nucleotide sugars metabolism

#5 Amino Acid Metabolism

- [00220](#) Urea cycle and metabolism of amino groups
- [00251](#) Glutamate metabolism
- [00252](#) Alanine and aspartate metabolism
- [00260](#) "Glycine, serine and threonine metabolism"
- [00271](#) Methionine metabolism
- [00272](#) Cysteine metabolism
- [00280](#) "Valine, leucine and isoleucine degradation"
- [00290](#) "Valine, leucine and isoleucine biosynthesis"
- [00300](#) Lysine biosynthesis
- [00310](#) Lysine degradation
- [00330](#) Arginine and proline metabolism
- [00340](#) Histidine metabolism
- [00350](#) Tyrosine metabolism
- [00360](#) Phenylalanine metabolism
- [00380](#) Tryptophan metabolism
- [00400](#) "Phenylalanine, tyrosine and tryptophan biosynthesis"

#6 Metabolism of Other Amino Acids

- [00410](#) beta-Alanine metabolism
- [00430](#) Taurine and hypotaurine metabolism
- [00440](#) Aminophosphonate metabolism
- [00450](#) Selenoamino acid metabolism
- [00460](#) Cyanoamino acid metabolism
- [00471](#) D-Glutamine and D-glutamate metabolism
- [00472](#) D-Arginine and D-ornithine metabolism
- [00480](#) Glutathione metabolism

#7 Metabolism of Complex Carbohydrates

- [00500](#) Starch and sucrose metabolism
- [00510](#) N-Glycans biosynthesis
- [00512](#) O-Glycans biosynthesis
- [00530](#) Aminosugars metabolism
- [00531](#) Glycosaminoglycan degradation

- [00532](#) Chondroitin / Heparan sulfate biosynthesis
- [00533](#) Keratan sulfate biosynthesis
- [00550](#) Peptidoglycan biosynthesis

#8 Metabolism of Complex Lipids

- [00561](#) Glycerolipid metabolism
- [00562](#) Inositol phosphate metabolism
- [00563](#) Glycosylphosphatidylinositol(GPI)-anchor biosynthesis
- [00570](#) Sphingophospholipid biosynthesis
- [00580](#) Phospholipid degradation
- [00590](#) Prostaglandin and leukotriene metabolism
- [00600](#) Sphingoglycolipid metabolism
- [00601](#) Blood group glycolipid biosynthesis - lact series
- [00602](#) Blood group glycolipid biosynthesis - neolact series
- [00603](#) Globoside metabolism
- [00604](#) Ganglioside biosynthesis

#9 Metabolism of Cofactors and Vitamins

- [00130](#) Ubiquinone biosynthesis
- [00670](#) One carbon pool by folate
- [00730](#) Thiamine metabolism
- [00740](#) Riboflavin metabolism
- [00750](#) Vitamin B6 metabolism
- [00760](#) Nicotinate and nicotinamide metabolism
- [00770](#) Pantothenate and CoA biosynthesis
- [00780](#) Biotin metabolism
- [00790](#) Folate biosynthesis
- [00830](#) Retinol metabolism
- [00860](#) Porphyrin and chlorophyll metabolism

#10 Biosynthesis of Secondary Metabolites

- [00521](#) Streptomycin biosynthesis
- [00522](#) Erythromycin biosynthesis
- [00900](#) Terpenoid biosynthesis
- [00940](#) "Flavonoids, stilbene and lignin biosynthesis"
- [00950](#) Alkaloid biosynthesis I
- [00960](#) Alkaloid biosynthesis II

#11 Biodegradation of Xenobiotics

- [00351](#) "1,1,1-Trichloro-2,2-bis(4-chlorophenyl)ethane (DDT) degradation"

- [00361](#) gamma-Hexachlorocyclohexane degradation
- [00362](#) Benzoate degradation via hydroxylation
- [00625](#) Tetrachloroethene degradation
- [00626](#) Nitrobenzene degradation
- [00627](#) "1,4-Dichlorobenzene degradation"
- [00628](#) Fluorene degradation
- [00632](#) Benzoate degradation via CoA ligation
- [00642](#) Ethylbenzene degradation
- [00643](#) Styrene degradation

#12 Transcription

- [03020](#) RNA polymerase
- [03022](#) Transcription factors

#13 Translation

- [00970](#) Aminoacyl-tRNA biosynthesis
- [03010](#) Ribosome

#14 Sorting and Degradation

- [03050](#) Proteasome
- [03060](#) Protein export
- [03070](#) Type III secretion system
- [04120](#) Ubiquitin mediated proteolysis

#15 Replication and Repair

- [03030](#) DNA polymerase

#17 Signal Transduction

- [04010](#) MAPK signaling pathway
- [04070](#) Phosphatidylinositol signaling system

#18 Cell Growth and Death

- [04110](#) Cell cycle
- [04210](#) Apoptosis

#19 Behavior

- [04710](#) Circadian rhythm

#21 Cell Motility

- [02040](#) Flagellar assembly

#24 Neurodegenerative Disorders

- [01510](#) Neurodegenerative Disorders
- [05010](#) Alzheimer's disease
- [05020](#) Parkinson's disease
- [05030](#) Amyotrophic lateral sclerosis (ALS)
- [05040](#) Huntington's disease
- [05050](#) Dentatorubropallidoluysian atrophy (DRPLA)
- [05060](#) Prion disease