

GeDiPNet Cluster 45 -- Enriched Pathways

Pathway enrichment: KEGG + Reactome, upper-tail hypergeometric test, Benjamini-Hochberg FDR-corrected. Fold enrichment = (overlap / cluster gene count) / (pathway gene count / universe size). Top 15 pathways per cluster by q-value. See scripts/build_cluster_enrichment.php on gedipnet.bicnirrh.res.in. Data as of: 2026-10-08 03:30:07. · Rows: 15 · Generated: 2026-10-08 17:27:04

Pathway	Source	Overlap Genes	Overlap Gene Names	Pathway Gene Count	Cluster Gene Count	Fold Enrichment	P-value	FDR Q-value
Respiratory electron transport	Reactome	59	SCO2, SURF1, COX6B1, SCO1, TACO1, COX14, COX20, COX4I1, COX5A, COX8A, LRPPRC, ND3	83	316	27.02	5.986e-76	6.642e-71
Oxidative phosphorylation	KEGG	68	COX15, ATP5F1A, COX10, COX6B1, COX4I1, COX5A, COX6A2, COX8A, ATP5MC3, ND3, ND5, ND6	137	316	18.86	5.276e-72	2.423e-67
Thermogenesis	KEGG	82	COA5, COA6, COX15, ATP5F1A, COX10, COX6B1, COA3, COX14, COX20, COX4I1, COX5A, COX6A2	234	316	13.32	6.551e-72	2.423e-67
Diabetic cardiomyopathy	KEGG	69	ATP5F1A, COX6B1, COX4I1, COX5A, COX6A2, COX8A, ATP5MC3, ND3, ND5, ND6, NDUFS2, NDUFS3	205	316	12.79	1.007e-58	2.793e-54
Complex I biogenesis	Reactome	42	ACAD9, ND3, ND5, ND6, NDUFS2, NDUFS3, NDUFS4, NDUFA1, NDUFA10, NDUFA12, NDUFA13, NDUFA2	55	316	29.02	2.968e-56	5.488e-52
Chemical carcinogenesis - reactive oxygen species	KEGG	66	ATP5F1A, COX6B1, COX4I1, COX5A, COX6A2, COX8A, ATP5MC3, ND3, ND5, ND6, NDUFS2, NDUFS3	227	316	11.05	2.289e-51	3.628e-47
Parkinson disease	KEGG	69	TXN2, ATP5F1A, COX6B1, COX4I1, COX5A, COX6A2, COX8A, ATP5MC3, ND3, ND5, ND6, NDUFS2	268	316	9.79	8.464e-50	1.043e-45
Huntington disease	KEGG	68	ATP5F1A, COX6B1, COX4I1, COX5A, COX6A2, COX8A, ATP5MC3, ND3, ND5, ND6, NDUFS2, NDUFS3	308	316	8.39	2.793e-44	2.603e-40
Prion disease	KEGG	65	ATP5F1A, COX6B1, COX4I1, COX5A, COX6A2, COX8A, ATP5MC3, ND3, ND5, ND6, NDUFS2, NDUFS3	275	316	8.98	2.815e-44	2.603e-40
Non-alcoholic fatty liver disease	KEGG	51	COX6B1, COX4I1, COX5A, COX6A2, COX8A, NDUFS2, NDUFS3, NDUFS4, SDHA, NDUFA1, NDUFA10, NDUFA12	157	316	12.35	2.651e-42	2.101e-38
Amyotrophic lateral sclerosis	KEGG	70	ATP5F1A, COX6B1, COX4I1, COX5A, COX6A2, COX8A, ATP5MC3, ND3, ND5, ND6, NDUFS2, NDUFS3	368	316	7.23	5.001e-41	3.699e-37
Alzheimer disease	KEGG	68	ATP5F1A, COX6B1, COX4I1, COX5A, COX6A2, COX8A, ATP5MC3, ND3, ND5, ND6, NDUFS2, NDUFS3	388	316	6.66	1.972e-37	1.094e-33
Pathways of neurodegeneration - multiple diseases	KEGG	69	ATP5F1A, COX6B1, COX4I1, COX5A, COX6A2, COX8A, ATP5MC3, ND3, ND5, ND6, NDUFS2, NDUFS3	480	316	5.46	2.465e-32	7.599e-29
Metabolic pathways	KEGG	117	COX15, MTFMT, MARS2, EARS2, ATP5F1A, TRIT1, QRSL1, GATB, GATC, NFS1, CRLS1, COX10	1563	316	2.85	4.266e-28	9.700e-25
Retrograde endocannabinoid signaling	KEGG	35	ND3, ND5, ND6, NDUFS2, NDUFS3, NDUFS4, NDUFA1, NDUFA10, NDUFA12, NDUFA13, NDUFA2, NDUFA3	149	316	8.93	7.795e-24	1.055e-20