

GeDiPNet Cluster 294 -- 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: 2026-10-07 03:30:09. · Rows: 15 · Generated: 2026-10-07 07:28:45

Pathway	Source	Overlap Genes	Overlap Gene Names	Pathway Gene Count	Cluster Gene Count	Fold Enrichment	P-value	FDR Q-value
Detoxification of Reactive Oxygen Species	Reactome	5	CAT, SOD1, SOD2, GSR, GSTP1	34	26	67.93	8.433e-9	7.548e-7
Peroxisome	KEGG	4	CAT, SOD1, SOD2, NOS2	83	26	22.26	2.824e-5	7.923e-4
Pathways in cancer	KEGG	7	LAMC1, MMP2, MMP9, SMAD4, NOS2, PTCH1, GSTP1	533	26	6.07	1.026e-4	2.302e-3
Longevity regulating pathway - multiple species	KEGG	3	CAT, SOD1, SOD2	62	26	22.35	3.130e-4	5.543e-3
Interleukin-4 and Interleukin-13 signaling	Reactome	3	MMP2, MMP9, NOS2	108	26	12.83	1.582e-3	1.921e-2
Activation of Matrix Metalloproteinases	Reactome	2	MMP2, MMP9	33	26	28.00	2.283e-3	2.516e-2
Regulation of Insulin-like Growth Factor (IGF) transport and uptake by Insulin-like Growth Factor Binding Proteins (IGFBPs)	Reactome	3	LAMC1, MMP2, IGFBP3	125	26	11.09	2.402e-3	2.612e-2
Relaxin signaling pathway	KEGG	3	MMP2, MMP9, NOS2	130	26	10.66	2.686e-3	2.843e-2
FoxO signaling pathway	KEGG	3	CAT, SMAD4, SOD2	133	26	10.42	2.865e-3	2.978e-2
Gene and protein expression by JAK-STAT signaling after Interleukin-12 stimulation	Reactome	2	SOD1, SOD2	38	26	24.31	3.020e-3	3.087e-2
Fluid shear stress and atherosclerosis	KEGG	3	MMP2, MMP9, GSTP1	141	26	9.83	3.379e-3	3.355e-2
Bladder cancer	KEGG	2	MMP2, MMP9	41	26	22.53	3.509e-3	3.430e-2
EPH-ephrin mediated repulsion of cells	Reactome	2	MMP2, MMP9	50	26	18.48	5.179e-3	4.474e-2
Collagen degradation	Reactome	2	MMP2, MMP9	52	26	17.77	5.592e-3	4.714e-2
Inhibition of nitric oxide production	Reactome	1	NOS2	3	26	153.97	6.481e-3	5.190e-2