

GeDiPNet Cluster 50 -- 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 14:38:26

Pathway	Source	Overlap Genes	Overlap Gene Names	Pathway Gene Count	Cluster Gene Count	Fold Enrichment	P-value	FDR Q-value
Collagen degradation	Reactome	17	MMP1, MMP13, COL3A1, MMP9, MMP14, MMP2, COL1A1, COL5A1, COL5A2, COL1A2, COL2A1, COL12A1	52	271	14.49	6.680e-16	2.663e-13
AGE-RAGE signaling pathway in diabetic complications	KEGG	20	IL6, PLCE1, SMAD3, AGT, COL3A1, TGFB2, TGFB1, TGFB2, AGTR1, MMP2, COL1A1, COL1A2	101	271	8.78	7.568e-14	1.971e-11
Assembly of collagen fibrils and other multimeric structures	Reactome	14	MMP13, COL3A1, MMP9, COL1A1, COL5A1, COL5A2, COL1A2, COL2A1, COL12A1, COL4A1, COL4A3, COL5A3	51	271	12.17	3.890e-12	7.538e-10
Extracellular matrix organization	Reactome	9	COL3A1, COL1A1, COL5A1, COL5A2, COL1A2, COL2A1, COL4A1, COL4A3, COL5A3	15	271	26.59	5.909e-12	1.106e-9
Collagen biosynthesis and modifying enzymes	Reactome	15	COL3A1, COL1A1, COL5A1, COL5A2, COL1A2, COL2A1, PLOD1, ADAMTS2, COL12A1, COL4A1, COL4A3, COL5A3	67	271	9.92	1.645e-11	2.804e-9
Collagen chain trimerization	Reactome	12	COL3A1, COL1A1, COL5A1, COL5A2, COL1A2, COL2A1, COL12A1, COL4A1, COL4A3, COL5A3, COL6A1, COL8A2	44	271	12.09	1.516e-10	2.114e-8
Molecules associated with elastic fibres	Reactome	11	FBN1, EFEMP2, ELN, TGFB2, FBN2, MFAP5, EFEMP1, EMILIN1, LTBP3, TGFB3, LTBP2	38	271	12.83	4.423e-10	5.446e-8
Pathways in cancer	KEGG	37	CDKN1A, IL6, MMP1, SMAD3, AGT, IL13RA1, IL6R, MMP9, TGFB2, TGFB1, TGFB2, AGTR1	533	271	3.08	9.326e-10	1.052e-7
Non-integrin membrane-ECM interactions	Reactome	9	COL3A1, COL1A1, COL5A1, COL5A2, COL1A2, COL2A1, COL4A1, COL4A3, COL5A3	24	271	16.62	1.292e-9	1.393e-7
NCAM1 interactions	Reactome	8	COL3A1, COL5A1, COL5A2, COL2A1, COL4A1, COL4A3, COL5A3, COL6A1	21	271	16.88	9.566e-9	8.391e-7
MET activates PTK2 signaling	Reactome	9	COL3A1, COL1A1, COL5A1, COL5A2, COL1A2, COL2A1, COL5A3, HGF, LAMC1	30	271	13.30	1.255e-8	1.059e-6
TGF-beta signaling pathway	KEGG	15	FBN1, GDF7, SMAD3, SKI, TGFB2, TGFB1, TGFB2, THSD4, SMAD2, TGFB3, SMAD4, FST	108	271	6.16	1.820e-8	1.475e-6
Interleukin-4 and Interleukin-13 signaling	Reactome	15	CDKN1A, IL6, MMP1, IL13RA1, IL6R, MMP9, PTGS2, MMP2, COL1A2, FOXO1, HGF, IL1A	108	271	6.16	1.820e-8	1.475e-6
Signaling by PDGF	Reactome	9	COL3A1, COL5A1, COL5A2, COL2A1, THBS2, COL4A1, COL4A3, COL5A3, COL6A1	33	271	12.09	3.188e-8	2.417e-6
Protein digestion and absorption	KEGG	14	COL3A1, ELN, ACE2, COL1A1, COL5A1, COL5A2, COL1A2, COL2A1, COL12A1, COL4A1, COL4A3, COL5A3	103	271	6.02	7.254e-8	4.937e-6