

GeDiPNet Cluster 110 -- 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: 2026-10-09 03:30:08. · Rows: 15 · Generated: 2026-10-09 07:58:52

Pathway	Source	Overlap Genes	Overlap Gene Names	Pathway Gene Count	Cluster Gene Count	Fold Enrichment	P-value	FDR Q-value
TGF-beta signaling pathway	KEGG	27	LEFTY2, MAPK1, PITX2, SMAD6, TGFB2, BMPR1A, BMP7, SMAD2, ACVR1, BMPR2, CHRD, HDAC1	108	456	6.58	2.515e-15	7.975e-13
Signaling pathways regulating pluripotency of stem cells	KEGG	28	HOXA1, ISL1, KLF4, LEFTY2, MAPK1, POU5F1, BMPR1A, ZIC3, SMAD2, ACVR1, BMPR2, HAND1	144	456	5.12	6.729e-13	1.368e-10
Pathways in cancer	KEGG	56	ABL1, EDN1, EDNRA, GNA11, GNAQ, GSTM1, GSTP1, GSTT1, HIF1A, JAG1, MAPK1, NOTCH1	533	456	2.77	2.983e-12	5.445e-10
Breast cancer	KEGG	23	JAG1, MAPK1, NOTCH1, FGF10, FLT4, FGF8, HEY1, HEY2, CSNK1A1, CTNNB1, DLL3, EGFR	148	456	4.09	7.898e-9	6.721e-7
Proteoglycans in cancer	KEGG	27	CAV3, FLNA, HIF1A, MAPK1, TGFB2, VEGFA, SMAD2, COL1A1, COL1A2, PTCH1, ROCK2, ACTB	204	456	3.49	1.413e-8	1.111e-6
Thyroid hormone signaling pathway	KEGG	20	GATA4, HIF1A, MAPK1, MYH6, MYH7, NOTCH1, RCAN1, HDAC1, MED13L, RXRA, ACTB, ACTG1	122	456	4.32	2.998e-8	2.173e-6
Signaling by BMP	Reactome	10	SMAD6, BMPR1A, BMP10, BMPR2, SMAD1, SMAD7, BMPR1B, SKI, SMAD4, ACVR2B	28	456	9.41	4.004e-8	2.813e-6
Gastric cancer	KEGG	22	MAPK1, TGFB2, FGF10, SMAD2, CTNNA3, FGF8, RXRA, CSNK1A1, CTNNB1, EGFR, FGF3, FGFR2	150	456	3.86	4.928e-8	3.399e-6
Cytoskeleton in muscle cells	KEGG	27	COL11A2, MYH6, MYH7, XIRP2, ANKRD1, COL1A1, COL1A2, CSRP1, DTNA, FBLN2, MYBPC3, MYH11	232	456	3.07	2.127e-7	1.211e-5
Adherens junction	KEGG	16	MAPK1, CTNNA3, MYL2, ROCK2, SNAI1, ACTB, ACTG1, CTNNB1, EGFR, EP300, FGFR1, RHOA	93	456	4.53	3.697e-7	1.972e-5
Hepatocellular carcinoma	KEGG	22	GSTM1, GSTP1, GSTT1, MAPK1, TGFB2, SMAD2, ACTB, ACTG1, CSNK1A1, CTNNB1, EGFR, FZD4	170	456	3.41	4.669e-7	2.413e-5
Focal adhesion	KEGG	24	CAV3, COL2A1, FLNA, MAPK1, VEGFA, FLT4, COL1A1, COL1A2, CRKL, MYL2, PDGFRA, ROCK2	203	456	3.11	7.602e-7	3.679e-5
Chronic myeloid leukemia	KEGG	14	ABL1, MAPK1, TGFB2, CRKL, HDAC1, SMAD3, SMAD4, TGFB2, TP53, BRAF, KRAS, PTPN11	77	456	4.79	9.939e-7	4.662e-5
NOTCH4 Intracellular Domain Regulates Transcription	Reactome	7	MAML3, NOTCH1, HEY1, HEY2, MAML2, EP300, NOTCH2	17	456	10.84	1.518e-6	6.687e-5
Transcriptional regulation of pluripotent stem cells	Reactome	7	FOXP1, KLF4, POU5F1, ZIC3, SMAD2, SALL4, SMAD4	17	456	10.84	1.518e-6	6.687e-5