

GeDiPNet Cluster 425 -- 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 03:56:32

Pathway	Source	Overlap Genes	Overlap Gene Names	Pathway Gene Count	Cluster Gene Count	Fold Enrichment	P-value	FDR Q-value
Defective CSF2RB causes pulmonary surfactant metabolism dysfunction 5 (SMDP5)	Reactome	4	CSF2RA, CSF2RB, SFTPB, SFTPC	7	10	686.29	8.473e-12	1.537e-9
Defective CSF2RA causes pulmonary surfactant metabolism dysfunction 4 (SMDP4)	Reactome	4	CSF2RA, CSF2RB, SFTPB, SFTPC	7	10	686.29	8.473e-12	1.537e-9
Surfactant metabolism	Reactome	5	ABCA3, CSF2RA, CSF2RB, SFTPB, SFTPC	29	10	207.07	1.426e-11	2.462e-9
Interleukin-3, Interleukin-5 and GM-CSF signaling	Reactome	3	CSF2, CSF2RA, CSF2RB	23	10	156.65	7.298e-7	3.709e-5
Hematopoietic cell lineage	KEGG	4	CSF2, CSF2RA, HLA-DRB5, HLA-DRB1	100	10	48.04	9.145e-7	4.507e-5
Interleukin receptor SHC signaling	Reactome	3	CSF2, CSF2RA, CSF2RB	27	10	133.44	1.203e-6	5.738e-5
Interferon gamma signaling	Reactome	3	HLA-DRB5, OAS1, HLA-DRB1	87	10	41.41	4.247e-5	1.119e-3
Rheumatoid arthritis	KEGG	3	CSF2, HLA-DRB5, HLA-DRB1	95	10	37.93	5.527e-5	1.389e-3
Translocation of ZAP-70 to Immunological synapse	Reactome	2	HLA-DRB5, HLA-DRB1	19	10	126.42	1.059e-4	2.357e-3
RAF/MAP kinase cascade	Reactome	3	CSF2, CSF2RA, CSF2RB	124	10	29.06	1.223e-4	2.636e-3
Phosphorylation of CD3 and TCR zeta chains	Reactome	2	HLA-DRB5, HLA-DRB1	22	10	109.18	1.429e-4	2.995e-3
PD-1 signaling	Reactome	2	HLA-DRB5, HLA-DRB1	23	10	104.43	1.564e-4	3.211e-3
Generation of second messenger molecules	Reactome	2	HLA-DRB5, HLA-DRB1	31	10	77.48	2.865e-4	5.175e-3
JAK-STAT signaling pathway	KEGG	3	CSF2, CSF2RA, CSF2RB	168	10	21.45	3.002e-4	5.365e-3
Asthma	KEGG	2	HLA-DRB5, HLA-DRB1	32	10	75.06	3.054e-4	5.443e-3