

GeDiPNet Cluster 286 -- 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 03:13:10

Pathway	Source	Overlap Genes	Overlap Gene Names	Pathway Gene Count	Cluster Gene Count	Fold Enrichment	P-value	FDR Q-value
Neuroactive ligand-receptor interaction	KEGG	7	ADRA2B, POMC, CHRNA1, GABRA1, GABRA2, GABRD, CHRNA2	370	32	7.10	4.303e-5	1.150e-3
Nicotine addiction	KEGG	3	GABRA1, GABRA2, GABRD	41	32	27.46	1.710e-4	3.481e-3
Highly calcium permeable nicotinic acetylcholine receptors	Reactome	2	CHRNA1, CHRNA2	9	32	83.40	2.447e-4	4.627e-3
Androgen biosynthesis	Reactome	2	POMC, HSD17B3	11	32	68.24	3.727e-4	6.461e-3
Highly calcium permeable postsynaptic nicotinic acetylcholine receptors	Reactome	2	CHRNA1, CHRNA2	12	32	62.55	4.464e-4	7.458e-3
GABA receptor activation	Reactome	2	GABRA1, GABRA2	16	32	46.91	8.063e-4	1.181e-2
GABAergic synapse	KEGG	3	GABRA1, GABRA2, GABRD	89	32	12.65	1.670e-3	2.044e-2
Morphine addiction	KEGG	3	GABRA1, GABRA2, GABRD	91	32	12.37	1.780e-3	2.141e-2
Defective ACTH causes Obesity and Pro-opiomelanocortinin deficiency (POMCD)	Reactome	1	POMC	2	32	187.66	5.322e-3	4.649e-2
Peptide hormone biosynthesis	Reactome	1	POMC	2	32	187.66	5.322e-3	4.649e-2
Phase 0 - rapid depolarisation	Reactome	2	SCN1A, CACNB4	44	32	17.06	6.068e-3	5.084e-2
Retrograde endocannabinoid signaling	KEGG	3	GABRA1, GABRA2, GABRD	149	32	7.56	7.133e-3	5.653e-2
Adrenaline signalling through Alpha-2 adrenergic receptor	Reactome	1	ADRA2B	3	32	125.10	7.973e-3	6.070e-2
Opioid Signalling	Reactome	1	POMC	3	32	125.10	7.973e-3	6.070e-2
Post-transcriptional silencing by small RNAs	Reactome	1	TNRC6A	7	32	53.62	1.851e-2	1.016e-1