

GeDiPNet Cluster 631 -- 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: 2026-10-20 03:30:09. · Rows: 15 · Generated: 2026-10-20 00:03:16

Pathway	Source	Overlap Genes	Overlap Gene Names	Pathway Gene Count	Cluster Gene Count	Fold Enrichment	P-value	FDR Q-value
Phase 0 - rapid depolarisation	Reactome	3	CACNB4, SCN2A, FGF14	44	9	90.98	3.795e-6	1.303e-4
Presynaptic depolarization and calcium channel opening	Reactome	2	CACNA1A, CACNB4	12	9	222.41	3.282e-5	7.809e-4
Defective SLC1A3 causes episodic ataxia 6 (EA6)	Reactome	1	SLC1A3	1	9	1334.44	7.494e-4	9.089e-3
Synaptic vesicle cycle	KEGG	2	CACNA1A, SLC1A3	79	9	33.78	1.493e-3	1.535e-2
Taste transduction	KEGG	2	CACNA1A, SCN2A	86	9	31.03	1.766e-3	1.739e-2
Astrocytic Glutamate-Glutamine Uptake And Metabolism	Reactome	1	SLC1A3	4	9	333.61	2.995e-3	2.538e-2
Glutamatergic synapse	KEGG	2	CACNA1A, SLC1A3	116	9	23.01	3.185e-3	2.656e-2
Spinocerebellar ataxia	KEGG	2	CACNA1A, FGF14	144	9	18.53	4.864e-3	3.589e-2
Transport of inorganic cations/anions and amino acids/oligopeptides	Reactome	1	SLC1A3	8	9	166.81	5.981e-3	4.097e-2
Regulation of insulin secretion	Reactome	1	CACNA1A	16	9	83.40	1.193e-2	6.320e-2
Glutamate Neurotransmitter Release Cycle	Reactome	1	SLC1A3	24	9	55.60	1.785e-2	8.027e-2
Phase 2 - plateau phase	Reactome	1	CACNB4	25	9	53.38	1.859e-2	8.212e-2
MAPK signaling pathway	KEGG	2	CACNA1A, CACNB4	299	9	8.93	1.981e-2	8.517e-2
Nicotine addiction	KEGG	1	CACNA1A	41	9	32.55	3.032e-2	1.090e-1
Voltage gated Potassium channels	Reactome	1	KCNA1	43	9	31.03	3.178e-2	1.119e-1