

GeDiPNet Shared-Gene Disease Pairs

Similarity: Jaccard index on shared curated genes (disease\_gdp). Significance: upper-tail hypergeometric test ( $P(X \geq k)$ ), Benjamini-Hochberg FDR-corrected across all tested pairs. Corroborated Shared Genes: count of shared genes backed by  $\geq 2$  distinct disease\_gdp.main\_source values combined across both diseases (e.g. GWAS-backed for one, ClinVar-backed for the other still counts); Shared Gene Names lists each gene's own source count in parentheses. Overlap Coefficient: shared genes / MIN(each disease's own total gene count) -- complements the Jaccard-based Similarity Score by showing how much of the SMALLER disease's entire known gene-set is covered by this pair, which Jaccard (dividing by the union) can understate. Shared Cluster: cluster id if both diseases fall in the same label-propagation cluster (scripts/build\_disease\_clusters.php), blank otherwise. See scripts/build\_related.php on gedipnet.bicnirrh.res.in. Data as of: 2026-10-09 03:00:13. Filters applied: disease name contains "mitchell syndrome" (3 matching pairs). · Rows: 3 · Generated: 2026-10-09 10:12:20

| Disease A                | Disease B                               | Shared Genes | Corroborated Shared Genes | Shared Gene Names | Similarity Score | Overlap Coefficient | P-value  | FDR Q-value | Shared Cluster |
|--------------------------|-----------------------------------------|--------------|---------------------------|-------------------|------------------|---------------------|----------|-------------|----------------|
| mitchell syndrome        | Peroxisomal acyl-coa oxidase deficiency | 1            | 1                         | ACOX1 (5)         | 0.33333          | 1.00000             | 1.299e-4 | 3.929e-4    |                |
| Hepatocellular carcinoma | mitchell syndrome                       | 1            | 1                         | ACOX1 (2)         | 0.00154          | 1.00000             | 4.215e-2 | 4.397e-2    |                |
| Alzheimer disease        | mitchell syndrome                       | 1            | 1                         | ACOX1 (2)         | 0.00045          | 1.00000             | 1.440e-1 | 1.450e-1    |                |