

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: 2026-10-20 03:00:20. Filters applied: disease name contains "Mental retardation, autosomal recessive 54" (5 matching pairs). · Rows: 5 · Generated: 2026-10-20 03:54:45

| Disease A                                  | Disease B                                  | Shared Genes | Corroborated Shared Genes | Shared Gene Names | Similarity Score | Overlap Coefficient | P-value  | FDR Q-value | Shared Cluster |
|--------------------------------------------|--------------------------------------------|--------------|---------------------------|-------------------|------------------|---------------------|----------|-------------|----------------|
| Dyshidrosis                                | Mental retardation, autosomal recessive 54 | 1            | 1                         | TNIK (2)          | 0.16667          | 1.00000             | 3.228e-4 | 6.412e-4    |                |
| Frontotemporal dementia                    | Mental retardation, autosomal recessive 54 | 1            | 1                         | TNIK (2)          | 0.01613          | 1.00000             | 3.939e-3 | 4.834e-3    |                |
| Dermatologic disorder                      | Mental retardation, autosomal recessive 54 | 1            | 1                         | TNIK (2)          | 0.01449          | 1.00000             | 4.390e-3 | 5.339e-3    |                |
| Juvenile arthritis                         | Mental retardation, autosomal recessive 54 | 1            | 1                         | TNIK (2)          | 0.00769          | 1.00000             | 8.329e-3 | 9.469e-3    |                |
| Mental retardation, autosomal recessive 54 | Nonsyndromic intellectual disability       | 1            | 1                         | TNIK (5)          | 0.00699          | 1.00000             | 9.168e-3 | 1.032e-2    |                |