

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 "Microcephaly and intellectual disability" (9 matching pairs). · Rows: 9 · Generated: 2026-10-20 03:39:12

| Disease A                                                | Disease B                                                  | Shared Genes | Corroborated Shared Genes | Shared Gene Names    | Similarity Score | Overlap Coefficient | P-value  | FDR Q-value | Shared Cluster |
|----------------------------------------------------------|------------------------------------------------------------|--------------|---------------------------|----------------------|------------------|---------------------|----------|-------------|----------------|
| Hereditary breast carcinoma                              | Microcephaly and intellectual disability                   | 1            | 0                         | MCPH1 (1)            | 0.12500          | 0.33333             | 9.682e-4 | 1.496e-3    |                |
| Microcephaly and intellectual disability                 | Urinary system neoplasms                                   | 1            | 1                         | WDR11 (2)            | 0.14286          | 0.50000             | 6.456e-4 | 1.087e-3    |                |
| Glucose intolerance                                      | Microcephaly and intellectual disability                   | 1            | 0                         | EIF2S3 (1)           | 0.16667          | 1.00000             | 3.228e-4 | 6.412e-4    |                |
| Hypogonadotropic hypogonadism 14 with or without anosmia | Microcephaly and intellectual disability                   | 1            | 0                         | WDR11 (1)            | 0.16667          | 1.00000             | 3.228e-4 | 6.412e-4    |                |
| Jawad syndrome                                           | Microcephaly and intellectual disability                   | 1            | 0                         | RBBP8 (1)            | 0.16667          | 1.00000             | 3.228e-4 | 6.412e-4    |                |
| Mehmo syndrome                                           | Microcephaly and intellectual disability                   | 1            | 1                         | EIF2S3 (2)           | 0.16667          | 1.00000             | 3.228e-4 | 6.412e-4    |                |
| Mental retardation, autosomal recessive 60               | Microcephaly and intellectual disability                   | 1            | 0                         | TAF13 (1)            | 0.16667          | 1.00000             | 3.228e-4 | 6.412e-4    |                |
| Microcephaly and intellectual disability                 | Microcephaly with mental retardation and digital anomalies | 1            | 0                         | RBBP8 (1)            | 0.16667          | 1.00000             | 3.228e-4 | 6.412e-4    |                |
| Microcephaly and intellectual disability                 | Primary microcephaly                                       | 2            | 2                         | MCPH1 (5), TAF13 (4) | 0.05000          | 0.40000             | 5.230e-5 | 1.985e-4    |                |