

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: 2026-10-11 03:00:14. Filters applied: disease name contains "Pelizaeus-merzbacher disease" (5 matching pairs). · Rows: 5 · Generated: 2026-10-11 14:27:57

| Disease A                        | Disease B                    | Shared Genes | Corroborated Shared Genes | Shared Gene Names                       | Similarity Score | Overlap Coefficient | P-value   | FDR Q-value | Shared Cluster |
|----------------------------------|------------------------------|--------------|---------------------------|-----------------------------------------|------------------|---------------------|-----------|-------------|----------------|
| Metachromatic leukodystrophy     | Pelizaeus-merzbacher disease | 1            | 1                         | MAL (2)                                 | 0.07143          | 0.16667             | 3.114e-3  | 4.096e-3    |                |
| hypomyelinating leukodystrophy 2 | Pelizaeus-merzbacher disease | 1            | 1                         | GJC2 (3)                                | 0.14286          | 1.00000             | 3.897e-4  | 8.665e-4    |                |
| hypomyelinating leukodystrophy 3 | Pelizaeus-merzbacher disease | 1            | 1                         | AIMP1 (3)                               | 0.14286          | 1.00000             | 3.897e-4  | 8.665e-4    |                |
| Pelizaeus-merzbacher disease     | Spastic paraplegia, x-linked | 2            | 1                         | PLP1 (8), RAB9B (1)                     | 0.25000          | 0.66667             | 3.795e-7  | 2.393e-6    |                |
| Hypomyelinating leukodystrophy   | Pelizaeus-merzbacher disease | 4            | 4                         | AIMP1 (6), HSPD1 (5), GJC2 (6), MAL (4) | 0.12121          | 0.66667             | 1.751e-10 | 1.704e-9    |                |