

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 "pyruvate kinase deficiency of red cells" (5 matching pairs). · Rows: 5 · Generated: 2026-10-11 07:48:01

| Disease A                                  | Disease B                               | Shared Genes | Corroborated Shared Genes | Shared Gene Names | Similarity Score | Overlap Coefficient | P-value  | FDR Q-value | Shared Cluster |
|--------------------------------------------|-----------------------------------------|--------------|---------------------------|-------------------|------------------|---------------------|----------|-------------|----------------|
| Gout                                       | pyruvate kinase deficiency of red cells | 1            | 1                         | PKLR (2)          | 0.00122          | 1.00000             | 5.319e-2 | 5.480e-2    |                |
| Hemolytic anemia                           | pyruvate kinase deficiency of red cells | 1            | 1                         | PKLR (3)          | 0.01786          | 1.00000             | 3.572e-3 | 4.594e-3    |                |
| Gaucher disease                            | pyruvate kinase deficiency of red cells | 1            | 1                         | PKLR (2)          | 0.05556          | 1.00000             | 1.104e-3 | 1.826e-3    |                |
| Congenital nonspherocytic hemolytic anemia | pyruvate kinase deficiency of red cells | 1            | 1                         | PKLR (2)          | 0.07692          | 1.00000             | 7.793e-4 | 1.405e-3    |                |
| Pyruvate kinase deficiency                 | pyruvate kinase deficiency of red cells | 1            | 1                         | PKLR (2)          | 0.33333          | 1.00000             | 1.299e-4 | 3.931e-4    |                |