

## 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 "Pyoderma gangrenosum" (14 matching pairs). · Rows: 14 · Generated: 2026-10-10 22:35:40

| Disease A                                                                          | Disease B                                             | Shared Genes | Corroborated Shared Genes | Shared Gene Names | Similarity Score | Overlap Coefficient | P-value  | FDR Q-value | Shared Cluster |
|------------------------------------------------------------------------------------|-------------------------------------------------------|--------------|---------------------------|-------------------|------------------|---------------------|----------|-------------|----------------|
| Bullous pyoderma gangrenosum                                                       | Heart valve disease                                   | 1            | 1                         | PTPN6 (3)         | 0.02381          | 1.00000             | 2.663e-3 | 3.596e-3    |                |
| Heart valve disease                                                                | Pyoderma gangrenosum                                  | 1            | 1                         | PTPN6 (3)         | 0.02381          | 1.00000             | 2.663e-3 | 3.596e-3    |                |
| Bullous pyoderma gangrenosum                                                       | Heart valve prolapse                                  | 1            | 1                         | PTPN6 (2)         | 0.03333          | 1.00000             | 1.883e-3 | 2.762e-3    |                |
| Heart valve prolapse                                                               | Pyoderma gangrenosum                                  | 1            | 1                         | PTPN6 (2)         | 0.03333          | 1.00000             | 1.883e-3 | 2.762e-3    |                |
| Bullous pyoderma gangrenosum                                                       | Vacterl association                                   | 1            | 1                         | PTPN6 (2)         | 0.05882          | 1.00000             | 1.039e-3 | 1.739e-3    |                |
| Pyoderma gangrenosum                                                               | Vacterl association                                   | 1            | 1                         | PTPN6 (2)         | 0.05882          | 1.00000             | 1.039e-3 | 1.739e-3    |                |
| Cervical disc degenerative disorder                                                | Pyogenic arthritis-pyoderma gangrenosum-acne syndrome | 1            | 1                         | IL1B (2)          | 0.12500          | 0.50000             | 7.792e-4 | 1.405e-3    |                |
| Antithrombin deficiency                                                            | Pyogenic arthritis-pyoderma gangrenosum-acne syndrome | 1            | 1                         | IL1B (2)          | 0.20000          | 0.50000             | 3.896e-4 | 8.665e-4    |                |
| Myoclonic epilepsy with ragged red fibers                                          | Pyogenic arthritis-pyoderma gangrenosum-acne syndrome | 1            | 1                         | IL1B (2)          | 0.20000          | 0.50000             | 3.896e-4 | 8.665e-4    |                |
| Autoinflammatory syndrome with cytopenia, hyperzincemia, and hypercalprotectinemia | Pyogenic arthritis-pyoderma gangrenosum-acne syndrome | 1            | 1                         | PSTPIP1 (4)       | 0.33333          | 1.00000             | 1.299e-4 | 3.931e-4    |                |
| Bullous pyoderma gangrenosum                                                       | Sweet syndrome                                        | 1            | 1                         | PTPN6 (2)         | 0.33333          | 1.00000             | 1.299e-4 | 3.931e-4    |                |
| Papa syndrome                                                                      | Pyogenic arthritis-pyoderma gangrenosum-acne syndrome | 1            | 1                         | PSTPIP1 (5)       | 0.33333          | 1.00000             | 1.299e-4 | 3.931e-4    |                |
| Pyoderma gangrenosum                                                               | Sweet syndrome                                        | 1            | 1                         | PTPN6 (2)         | 0.33333          | 1.00000             | 1.299e-4 | 3.931e-4    |                |
| Bullous pyoderma gangrenosum                                                       | Pyoderma gangrenosum                                  | 1            | 1                         | PTPN6 (2)         | 0.50000          | 1.00000             | 6.494e-5 | 2.331e-4    |                |