

## GeDiPNet Cluster 289 -- Enriched Pathways

Pathway enrichment: KEGG + Reactome, upper-tail hypergeometric test, Benjamini-Hochberg FDR-corrected. Fold enrichment = (overlap / cluster gene count) / (pathway gene count / universe size). Top 15 pathways per cluster by q-value. See [scripts/build\\_cluster\\_enrichment.php](#) on [gedipnet.bicnirrh.res.in](#). Data as of: 2026-10-07 03:30:09. · Rows: 15 · Generated: 2026-10-07 10:08:33

| Pathway                                                | Source   | Overlap Genes | Overlap Gene Names                                                                  | Pathway Gene Count | Cluster Gene Count | Fold Enrichment | P-value   | FDR Q-value |
|--------------------------------------------------------|----------|---------------|-------------------------------------------------------------------------------------|--------------------|--------------------|-----------------|-----------|-------------|
| AGE-RAGE signaling pathway in diabetic complications   | KEGG     | 13            | IL1B, TGFB1, IL6, TNF, COL1A1, MAPK1, MAPK3, MAPK8, MAPK9, ICAM1, NOS3, TGFB1       | 101                | 58                 | 26.65           | 1.097e-15 | 4.221e-13   |
| Th17 cell differentiation                              | KEGG     | 12            | IL1B, TGFB1, HLA-DPB1, HLA-DRB1, IL2RA, IL6, FOS, MAPK1, MAPK3, MAPK8, MAPK9, TGFB1 | 109                | 58                 | 22.80           | 1.059e-13 | 2.694e-11   |
| Rheumatoid arthritis                                   | KEGG     | 11            | IL1B, TGFB1, CD28, HLA-DPB1, HLA-DRB1, IL6, TNF, FOS, FLT1, ICAM1, PTH              | 95                 | 58                 | 23.98           | 7.024e-13 | 1.580e-10   |
| Chagas disease                                         | KEGG     | 11            | IL1B, TGFB1, ACE, IL6, TNF, FOS, MAPK1, MAPK3, MAPK8, MAPK9, TGFB1                  | 103                | 58                 | 22.11           | 1.743e-12 | 3.653e-10   |
| Human T-cell leukemia virus 1 infection                | KEGG     | 13            | TGFB1, HLA-DPB1, HLA-DRB1, IL2RA, IL6, TNF, FOS, MAPK1, MAPK3, MAPK8, MAPK9, ICAM1  | 224                | 58                 | 12.02           | 3.509e-11 | 5.593e-9    |
| Tuberculosis                                           | KEGG     | 12            | CD14, IL1B, TGFB1, HLA-DPB1, HLA-DRB1, IL6, TNF, MAPK1, MAPK3, MAPK8, MAPK9, VDR    | 181                | 58                 | 13.73           | 4.645e-11 | 7.226e-9    |
| Toll-like receptor signaling pathway                   | KEGG     | 10            | CD14, IL1B, IL6, TNF, FOS, MAPK1, MAPK3, MAPK8, MAPK9, SPP1                         | 109                | 58                 | 19.00           | 9.041e-11 | 1.313e-8    |
| Pertussis                                              | KEGG     | 9             | CD14, IL1B, IL6, TNF, FOS, MAPK1, MAPK3, MAPK8, MAPK9                               | 78                 | 58                 | 23.89           | 1.054e-10 | 1.508e-8    |
| Focal adhesion                                         | KEGG     | 12            | COL1A1, COL9A3, THBS2, COL9A2, MAPK1, MAPK3, MAPK8, MAPK9, PRKCG, FLT1, KDR, SPP1   | 203                | 58                 | 12.24           | 1.772e-10 | 2.431e-8    |
| TNF signaling pathway                                  | KEGG     | 10            | IL1B, IL6, TNF, FOS, MAPK1, MAPK3, MAPK8, MAPK9, ICAM1, VCAM1                       | 119                | 58                 | 17.40           | 2.175e-10 | 2.906e-8    |
| Lipid and atherosclerosis                              | KEGG     | 12            | CD14, IL1B, IL6, TNF, FOS, MAPK1, MAPK3, MAPK8, MAPK9, ICAM1, NOS3, VCAM1           | 216                | 58                 | 11.50           | 3.636e-10 | 4.585e-8    |
| Activation of the AP-1 family of transcription factors | Reactome | 5             | FOS, MAPK1, MAPK3, MAPK8, MAPK9                                                     | 10                 | 58                 | 103.53          | 5.449e-10 | 6.555e-8    |
| PI3K-Akt signaling pathway                             | KEGG     | 14            | IL2RA, IL6, COL1A1, COL9A3, THBS2, COL9A2, MAPK1, MAPK3, EPO, FLT1, KDR, NOS3       | 361                | 58                 | 8.03            | 1.169e-9  | 1.282e-7    |
| Osteoclast differentiation                             | KEGG     | 10            | IL1B, TGFB1, TNF, FOS, MAPK1, MAPK3, MAPK8, MAPK9, TGFB1, TNFRSF11B                 | 142                | 58                 | 14.58           | 1.248e-9  | 1.356e-7    |
| MAPK signaling pathway                                 | KEGG     | 13            | CD14, IL1B, TGFB1, TNF, FOS, MAPK1, MAPK3, MAPK8, MAPK9, PRKCG, FLT1, KDR           | 299                | 58                 | 9.00            | 1.258e-9  | 1.363e-7    |