

## KEGG Pathways with Significant Changes in number of unique KEGG Orthologs across Anthazoan Tree

| Major KEGG Category                  | Minor KEGG Category     | KEGG Pathway                                 | p-value |
|--------------------------------------|-------------------------|--|---------|
| Cellular Processes                   | Cell motility           | Bacterial chemotaxis (map02030)              | 0.002   |
| Environmental Information Processing | Membrane transport      | ABC transporters (map02010)                  | 0.010   |
| Environmental Information Processing | Membrane transport      | Bacterial secretion system (map03070)        | 0.014   |
| Environmental Information Processing | Signal transduction     | MAPK signaling pathway (map04010)            | 0.014   |
| Environmental Information Processing | Signal transduction     | MAPK signaling pathway - fly (map04013)      | 0.037   |
| Environmental Information Processing | Signal transduction     | Notch signaling pathway (map04330)           | 0.009   |
| Environmental Information Processing | Signal transduction     | Two-component system (map02020)              | 0.011   |
| Genetic Information Processing       | Replication and repair  | Nucleotide excision repair (map03420)        | 0.036   |
| Genetic Information Processing       | Transcription           | RNA polymerase (map03020)                    | 0.016   |
| Genetic Information Processing       | Translation             | Ribosome (map03010)                          | <0.001  |
| Metabolism                           | Amino acid metabolism   | Lysine biosynthesis (map00300)               | 0.021   |
| Metabolism                           | Carbohydrate metabolism | Ascorbate and aldarate metabolism (map00053) | 0.029   |
| Metabolism                           | Carbohydrate metabolism | Butanoate metabolism (map00650)              | 0.036   |
| Metabolism                           | Lipid metabolism        | Fatty acid degradation (map00071)            | 0.029   |
| Metabolism                           | Metabolism of other     | beta-Alanine metabolism                      | 0.022   |

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|                    |                |   |       |
|--------------------|----------------|---|-------|
|                    | amino acids    | (map00410)                                      |       |
| Organismal Systems | Immune system  | Toll-like receptor signaling pathway (map04620) | 0.048 |
| Organismal Systems | Nervous system | Retrograde endocannabinoid signaling (map04723) | 0.003 |