

Supplementary Table 7. 11 immune response related upregulated biological processes.

| go_id | go_number | go_name | enrichment | pvalue | FDR | gene_id | gene_name | gene_number |
|------------|-----------|--|-------------|-------------|-------------|---------|-----------|-------------|
| GO:0000187 | 1 | activation of MAPK activity | 20.32258065 | 0.001813107 | 0.033736734 | 5608 | MAP2K6 | 8 |
| GO:0000187 | 1 | activation of MAPK activity | 20.32258065 | 0.001813107 | 0.033736734 | 1432 | MAPK14 | 9 |
| GO:0000187 | 1 | activation of MAPK activity | 20.32258065 | 0.001813107 | 0.033736734 | 5562 | PRKAA1 | 12 |
| GO:0002224 | 2 | toll-like receptor signaling pathway | 17.71234093 | 0.002707099 | 0.045496726 | 5608 | MAP2K6 | 8 |
| GO:0002224 | 2 | toll-like receptor signaling pathway | 17.71234093 | 0.002707099 | 0.045496726 | 1432 | MAPK14 | 9 |
| GO:0002224 | 2 | toll-like receptor signaling pathway | 17.71234093 | 0.002707099 | 0.045496726 | 7100 | TLR5 | 15 |
| GO:0002544 | 3 | chronic inflammatory response | 143.0107527 | 0.000341531 | 0.01022827 | 6280 | S100A9 | 13 |
| GO:0002544 | 3 | chronic inflammatory response | 143.0107527 | 0.000341531 | 0.01022827 | 8876 | VNN1 | 16 |
| GO:0002755 | 4 | MyD88-dependent toll-like receptor signaling pathway | 31.78016726 | 3.3169E-05 | 0.002707296 | 11213 | IRAK3 | 6 |
| GO:0002755 | 4 | MyD88-dependent toll-like receptor signaling pathway | 31.78016726 | 3.3169E-05 | 0.002707296 | 5608 | MAP2K6 | 8 |
| GO:0002755 | 4 | MyD88-dependent toll-like receptor signaling pathway | 31.78016726 | 3.3169E-05 | 0.002707296 | 1432 | MAPK14 | 9 |
| GO:0002755 | 4 | MyD88-dependent toll-like receptor signaling pathway | 31.78016726 | 3.3169E-05 | 0.002707296 | 7100 | TLR5 | 15 |
| GO:0006954 | 5 | inflammatory response | 10.90759978 | 0.000410155 | 0.011246883 | 4671 | NAIP | 10 |
| GO:0006954 | 5 | inflammatory response | 10.90759978 | 0.000410155 | 0.011246883 | 58484 | NLRC4 | 11 |
| GO:0006954 | 5 | inflammatory response | 10.90759978 | 0.000410155 | 0.011246883 | 6280 | S100A9 | 13 |
| GO:0006954 | 5 | inflammatory response | 10.90759978 | 0.000410155 | 0.011246883 | 7100 | TLR5 | 15 |
| GO:0006954 | 5 | inflammatory response | 10.90759978 | 0.000410155 | 0.011246883 | 8876 | VNN1 | 16 |
| GO:0032496 | 6 | response to lipopolysaccharide | 22.58064516 | 0.000127926 | 0.005126865 | 55122 | AKIRIN2 | 1 |
| GO:0032496 | 6 | response to lipopolysaccharide | 22.58064516 | 0.000127926 | 0.005126865 | 249 | ALPL | 2 |
| GO:0032496 | 6 | response to lipopolysaccharide | 22.58064516 | 0.000127926 | 0.005126865 | 11213 | IRAK3 | 6 |
| GO:0032496 | 6 | response to lipopolysaccharide | 22.58064516 | 0.000127926 | 0.005126865 | 6280 | S100A9 | 13 |
| GO:0034146 | 7 | toll-like receptor 5 signaling pathway | 29.70223325 | 0.000591773 | 0.014681612 | 5608 | MAP2K6 | 8 |
| GO:0034146 | 7 | toll-like receptor 5 signaling pathway | 29.70223325 | 0.000591773 | 0.014681612 | 1432 | MAPK14 | 9 |
| GO:0034146 | 7 | toll-like receptor 5 signaling pathway | 29.70223325 | 0.000591773 | 0.014681612 | 7100 | TLR5 | 15 |
| GO:0034166 | 8 | toll-like receptor 10 signaling pathway | 29.70223325 | 0.000591773 | 0.014681612 | 5608 | MAP2K6 | 8 |
| GO:0034166 | 8 | toll-like receptor 10 signaling pathway | 29.70223325 | 0.000591773 | 0.014681612 | 1432 | MAPK14 | 9 |
| GO:0034166 | 8 | toll-like receptor 10 signaling pathway | 29.70223325 | 0.000591773 | 0.014681612 | 7100 | TLR5 | 15 |
| GO:0042742 | 9 | defense response to bacterium | 31.54648956 | 2.40302E-06 | 0.000344732 | 306 | ANXA3 | 3 |
| GO:0042742 | 9 | defense response to bacterium | 31.54648956 | 2.40302E-06 | 0.000344732 | 2207 | FCER1G | 5 |
| GO:0042742 | 9 | defense response to bacterium | 31.54648956 | 2.40302E-06 | 0.000344732 | 58484 | NLRC4 | 11 |
| GO:0042742 | 9 | defense response to bacterium | 31.54648956 | 2.40302E-06 | 0.000344732 | 6280 | S100A9 | 13 |
| GO:0042742 | 9 | defense response to bacterium | 31.54648956 | 2.40302E-06 | 0.000344732 | 7100 | TLR5 | 15 |
| GO:0045087 | 10 | innate immune response | 12.77803657 | 4.76557E-09 | 2.48286E-06 | 55122 | AKIRIN2 | 1 |
| GO:0045087 | 10 | innate immune response | 12.77803657 | 4.76557E-09 | 2.48286E-06 | 1378 | CR1 | 4 |
| GO:0045087 | 10 | innate immune response | 12.77803657 | 4.76557E-09 | 2.48286E-06 | 353514 | LILRA5 | 7 |
| GO:0045087 | 10 | innate immune response | 12.77803657 | 4.76557E-09 | 2.48286E-06 | 5608 | MAP2K6 | 8 |

| | | | | | | | | |
|------------|----|--|-------------|-------------|-------------|-------|--------|----|
| GO:0045087 | 10 | innate immune response | 12.77803657 | 4.76557E-09 | 2.48286E-06 | 1432 | MAPK14 | 9 |
| GO:0045087 | 10 | innate immune response | 12.77803657 | 4.76557E-09 | 2.48286E-06 | 4671 | NAIP | 10 |
| GO:0045087 | 10 | innate immune response | 12.77803657 | 4.76557E-09 | 2.48286E-06 | 58484 | NLRC4 | 11 |
| GO:0045087 | 10 | innate immune response | 12.77803657 | 4.76557E-09 | 2.48286E-06 | 6280 | S100A9 | 13 |
| GO:0045087 | 10 | innate immune response | 12.77803657 | 4.76557E-09 | 2.48286E-06 | 6732 | SRPK1 | 14 |
| GO:0045087 | 10 | innate immune response | 12.77803657 | 4.76557E-09 | 2.48286E-06 | 7100 | TLR5 | 15 |
| GO:0045087 | 10 | innate immune response | 12.77803657 | 4.76557E-09 | 2.48286E-06 | 8876 | VNN1 | 16 |
| GO:0051092 | 11 | positive regulation of NF-kappaB transcription factor ac | 17.71234093 | 0.002707099 | 0.045496726 | 11213 | IRAK3 | 6 |
| GO:0051092 | 11 | positive regulation of NF-kappaB transcription factor ac | 17.71234093 | 0.002707099 | 0.045496726 | 58484 | NLRC4 | 11 |
| GO:0051092 | 11 | positive regulation of NF-kappaB transcription factor ac | 17.71234093 | 0.002707099 | 0.045496726 | 6280 | S100A9 | 13 |