

Supplementary Table S3. Antimicrobial peptides and biomarkers in the literature dataset (n=32) participating in the activation of innate and immune mechanisms as determined using IPA Canonical Pathways annotations. Ingenuity Pathway Analysis (IPA, Qiagen, Germantown, MD) was used to assess whether the antimicrobial peptides and biomarkers in the literature dataset (n=32) would participate in the activation of innate and immune mechanisms. IPA Core Analysis was run on the list of 32 biomarkers and IPA Canonical Pathways annotations were associated with cellular stress and injury (e.g., wound healing); cytokine signaling; growth factor signaling; intracellular and second messenger signaling; cellular growth, proliferation, and development; cellular immune response; and organismal growth and development.

| Canonical Pathways | -log (p-value) | p-value | No. of molecules | Identification of molecules |
|--|---------------------------|----------------|-----------------------------|---|
| Cellular stress and injury | | | | |
| Wound Healing Signaling Pathway | 10.492 | 3.22E-11 | 9 | CSF2, CXCL8, FGF2, FN1, IL6, TGFA, TGFB1, TNF, VEGFA |
| CLEAR Signaling Pathway | 4.440 | 3.63E-05 | 5 | FGF2, TGFA, TGFB1, TNF, VEGFA |
| Cytokine signaling | | | | |
| IL17 Signaling Pathway | 19.074 | 8.43E-20 | 13 | CCL2, CCL20, CSF2, CXCL1, CXCL3, CXCL8, DEFB1, DEFB103A/DEFB103B, DEFB4A/DEFB4B, IL6, TGFB1, TNF, VEGFA |
| IL13 Signaling Pathway | 6.345 | 4.52E-07 | 5 | DEFB1, DEFB103A/DEFB103B, DEFB4A/DEFB4B, IL10, TGFB1 |
| IL6 Signaling Pathway | 4.597 | 2.53E-05 | 4 | CXCL8, IL6, TNF, VEGFA |
| IL12 Signaling Pathway and Production in Macrophages | 4.493 | 3.21E-05 | 4 | IL10, S100A8, TGFB1, TNF |
| Th1 and Th2 Activation Pathway | 4.096 | 8.01E-05 | 4 | ICAM1, IL10, IL6, TGFB1 |
| IL10 Signaling Pathway | 3.910 | 1.23E-04 | 3 | IL10, IL6, TNF |
| IL8 Signaling Pathway | 3.762 | 1.73E-04 | 4 | CXCL1, CXCL8, ICAM1, VEGFA |
| Th1 Pathway | 3.236 | 5.81E-04 | 3 | ICAM1, IL10, IL6 |
| Th2 Pathway | 3.090 | 8.13E-04 | 3 | ICAM1, IL10, TGFB1 |
| IL23 Signaling Pathway | 2.759 | 1.74E-03 | 2 | CSF2, TNF |
| Acute Phase Response Signaling | 2.714 | 1.93E-03 | 3 | FN1, IL6, TNF |
| NF-κB Signaling Pathway | 0.752 | 2.85E-01 | 2 | TGFA, TNF |
| Growth factor signaling | | | | |
| TGF-β Signaling Pathway | 3.541 | 2.88E-04 | 3 | SMAD3, SMAD4, TGFB1 |
| Intracellular and second messenger signaling | | | | |

| | | | | |
|---|--------|----------|----|---|
| NAD Signaling Pathway | 4.316 | 4.83E-05 | 4 | FGF2, TGFA, TGFB1, VEGFA |
| Protein Kinase A Signaling | 1.764 | 1.72E-02 | 3 | SMAD3, SMAD4, TGFB1 |
| Cellular growth, proliferation, and development | | | | |
| STAT3 Signaling Pathway | 4.506 | 3.12E-05 | 4 | FGF2, TGFA, TGFB1, VEGFA |
| ILK Signaling Pathway | 2.618 | 2.41E-03 | 3 | FN1, TNF, VEGFA |
| FGF Signaling Pathway | 2.226 | 5.94E-03 | 2 | FGF1, FGF2 |
| Cellular immune response | | | | |
| IL17 Signaling Pathway | 19.074 | 8.43E-20 | 13 | CCL2, CCL20, CSF2, CXCL1, CXCL3, CXCL8, DEFB1, DEFB103A/DEFB103B, DEFB4A/DEFB4B, IL6, TGFB1, TNF, VEGFA |
| TREM1 Signaling Pathway | 15.208 | 6.19E-16 | 9 | CCL2, CSF2, CXCL3, CXCL8, DEFB4A/DEFB4B, ICAM1, IL10, IL6, TNF |
| Agranulocyte Adhesion and Diapedesis | 12.830 | 1.48E-13 | 10 | CCL2, CCL20, CXCL1, CXCL2, CXCL3, CXCL8, FN1, ICAM1, SELE, TNF |
| Granulocyte Adhesion and Diapedesis | 11.614 | 2.43E-12 | 9 | CCL2, CCL20, CXCL1, CXCL2, CXCL3, CXCL8, ICAM1, SELE, TNF |
| HMGB1 Signaling Pathway | 10.353 | 4.44E-11 | 8 | CCL2, CSF2, CXCL8, ICAM1, IL6, SELE, TGFB1, TNF |
| Role of Cytokines in Mediating Communication between Immune Cells | 10.058 | 8.74E-11 | 6 | CSF2, CXCL8, IL10, IL6, TGFB1, TNF |
| Th17 Activation Pathway | 5.532 | 2.94E-06 | 7 | CCL20, CSF2, DEFB1, DEFB103A/DEFB103B, DEFB4A/DEFB4B, IL10, IL6 |
| IL6 Signaling Pathway | 4.597 | 2.53E-05 | 4 | CXCL8, IL6, TNF, VEGFA |
| IL12 Signaling Pathway and Production in Macrophages | 4.493 | 3.21E-05 | 4 | IL10, S100A8, TGFB1, TNF |
| Th1 and Th2 Activation Pathway | 4.096 | 8.01E-05 | 4 | ICAM1, IL10, IL6, TGFB1 |
| IL10 Signaling Pathway | 3.910 | 1.23E-04 | 3 | IL10, IL6, TNF |
| IL8 Signaling Pathway | 3.762 | 1.73E-04 | 4 | CXCL1, CXCL8, ICAM1, VEGFA |
| Th1 Pathway | 3.236 | 5.81E-04 | 3 | ICAM1, IL10, IL6 |
| Th2 Pathway | 3.090 | 8.13E-04 | 3 | ICAM1, IL10, TGFB1 |
| IL23 Signaling Pathway | 2.759 | 1.74E-03 | 2 | CSF2, TNF |
| PFKFB4 Signaling Pathway | 2.724 | 1.89E-03 | 2 | FGF2, TGFB1 |
| Communication between Innate and Adaptive Immune Cells | 2.128 | 7.44E-03 | 5 | CSF2, CXCL8, IL10, IL6, TNF |
| p38 MAPK Signaling Pathway | 1.947 | 1.13E-02 | 2 | TGFB1, TNF |

| | | | | |
|---|--------|----------|---|---|
| Antiproliferative Role of TOB in T Cell Signaling Pathway | 1.719 | 1.91E-02 | 3 | SMAD3, SMAD4, TGFB1 |
| NF-κB Signaling Pathway | 0.752 | 2.85E-01 | 2 | TGFA, TNF |
| Organismal growth and development | | | | |
| ID1 Signaling Pathway | 11.393 | 4.05E-12 | 9 | FGF2, FN1, IL6, S100A9, SMAD3, SMAD4, TGFB1, TNF, VEGFA |
| CSDE1 Signaling Pathway | 4.237 | 5.79E-05 | 3 | CCL2, FN1, TGFB1 |
| BMP Signaling Pathway | 2.217 | 6.07E-03 | 2 | BMP10, SMAD4 |