

Supplemental Table 1. Cultured pathogens from sepsis patients

| Pathogen | N |
|---------------------------------|----|
| Gram positive | |
| <i>Staphylococcus aureus</i> | 6 |
| <i>Enterobacter spp.</i> | 4 |
| <i>Streptococcus pneumoniae</i> | 1 |
| Gram negative | |
| <i>Escherichia coli</i> | 12 |
| <i>Klebsiella pneumoniae</i> | 9 |
| <i>Acinetobacter baumannii</i> | 8 |
| <i>Pseudomonas aeruginosa</i> | 7 |
| <i>Proteus mirabilis</i> | 4 |
| <i>Morganella morganii</i> | 1 |
| <i>Salmonella spp</i> | 1 |

Supplemental Table 2 Cytokine levels in normal control group that showed statistical significance by Mann-Whitney U test

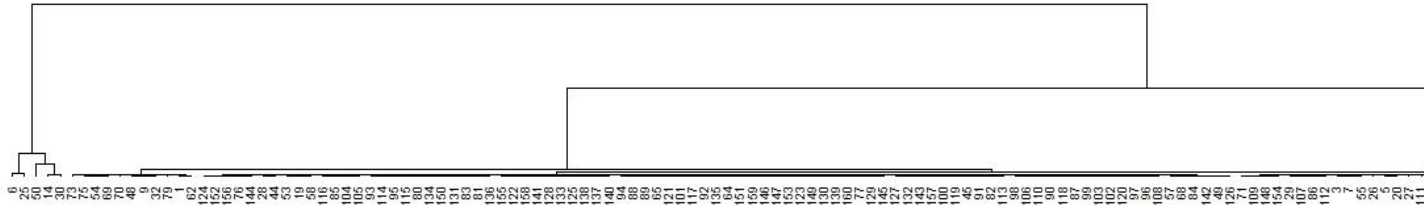
| | Age group, years | N | Mean | Standard deviation |
|---------|---------------------|----|--------|--------------------|
| IL-2 | ≤65 | 16 | 16.34 | 7.91 |
| | >65 | 64 | 8.96 | 10.31 |
| IL-15 | ≤65 | 16 | 18.00 | 15.06 |
| | >65 | 64 | 8.27 | 11.03 |
| IL-27 | ≤65 | 16 | 4.87 | 19.48 |
| | >65 | 64 | 0.00 | 0.00 |
| BDNF | ≤65 | 16 | 142.79 | 291.08 |
| | >65 | 64 | 40.80 | 130.23 |
| PDGF-BB | ≤65 | 16 | 79.70 | 137.69 |
| | >65 | 64 | 18.87 | 52.10 |

Supplemental Table 3 Cytokine concentrations among clusters and comparison of clusters

| Molecules | Cluster 1 | Cluster 2 | Cluster 3 | 1 vs 2 | 2 vs 3 | 1 vs 3 |
|------------------------|----------------------|--------------------------|-------------------------|--------|--------|--------|
| Cytokines | | | | | | |
| IFN- α | 0.03 \pm 0.38 | 0 | 50.26 \pm 241.44 | | | <0.001 |
| IFN- γ | 6.46 \pm 55.81 | 0 | 37.47 \pm 117.59 | | | |
| IL-1RA | 324.59 \pm 944.30 | 90766.57 \pm 128336.37 | 2824.21 \pm 7812.53 | | | |
| IL-1 β | 81.40 \pm 341.21 | 81772.34 \pm 115643.56 | 4589.83 \pm 13138.40 | 0.01 | | |
| IL-1 α | 111.08 \pm 595.99 | 6.25 \pm 1.09 | 10077.10 \pm 16520.51 | 0.006 | | <0.001 |
| IL-2 | 10.38 \pm 235.69 | 32.36 \pm 10.88 | 11.41 \pm 37.15 | 0.013 | 0.009 | |
| IL-4 | 374.64 \pm 1441.92 | 29.18 \pm 26.03 | 12069.11 \pm 24716 | 0.008 | | <0.001 |
| IL-5 | 1.75 \pm 8.35 | 13.08 \pm 15.54 | 14.11 \pm 26.31 | <0.001 | | <0.001 |
| IL-6 | 10.37 \pm 33.22 | 195.43 \pm 283.86 | 163.58 \pm 659.55 | <0.001 | | |
| IL-7 | 9.03 \pm 30.93 | 9466.05 \pm 10938.06 | 371.77 \pm 1586.27 | 0.043 | | |
| IL-8 | 55.26 \pm 409.15 | 6118.83 \pm 12125.17 | 1375.96 \pm 3992.14 | 0.002 | | <0.001 |
| IL-9 | 3.64 \pm 15.91 | 378.41 \pm 550.49 | 32.67 \pm 66.94 | <0.001 | | <0.001 |
| IL-10 | 38.10 \pm 267.73 | 894.67 \pm 1768.19 | 956.24 \pm 2036.06 | 0.01 | | <0.001 |
| IL-12p70 | 0.71 \pm 2.12 | 556.22 \pm 770.41 | 11.01 \pm 39.63 | | | <0.001 |
| IL-13 | 3.25 \pm 13.85 | 1552.05 \pm 2447.52 | 140.63 \pm 456.11 | | | <0.001 |
| IL-15 | 8.80 \pm 0.1 | 9.41 \pm 10.16 | 30.63 \pm 149.17 | | | |
| IL-17A | 3.45 \pm 9.00 | 32.45 \pm 29.64 | 20.16 \pm 34.86 | 0.001 | | <0.001 |
| IL-18 | 6.04 \pm 20.65 | 14.96 \pm 16.10 | 32.14 \pm 66.15 | 0.01 | | <0.001 |
| IL-21 | 11.59 \pm 45.66 | 89.53 \pm 117.56 | 23.27 \pm 39.92 | 0.003 | | <0.001 |
| IL-22 | 21.1 \pm 91.42 | 262.31 \pm 467.33 | 69.48 \pm 192.62 | 0.001 | | 0.002 |
| IL-23 | 22.8 \pm 154.42 | 724.03 \pm 1348.31 | 274.03 \pm 974.71 | <0.001 | | <0.001 |
| IL-27 | 16.83 \pm 75.01 | 199.22 \pm 296.47 | 849.62 \pm 4510.31 | <0.001 | | <0.001 |
| IL-31 | 3.99 \pm 19.27 | 50.54 \pm 45.96 | 50.12 \pm 152.40 | <0.001 | | <0.001 |
| LIF | 10.96 \pm 33.64 | 71.93 \pm 123.01 | 111.51 \pm 373.25 | | | |
| GM-CSF (CSF2) | 0.06 \pm 0.61 | 5.71 \pm 12.76 | 15.35 \pm 68.66 | 0.001 | | 0.04 |
| SCF (KITLG) | 83.78 \pm 82.45 | 78.10 \pm 96.12 | 32.25 \pm 23.26 | | | 0.001 |
| TNF- α (LTA) | 2.73 \pm 7.94 | 46.17 \pm 50.33 | 96.04 \pm 416.02 | 0.001 | | |
| TNF- β (LTB) | 0.93 \pm 5.64 | 199.73 \pm 433.83 | 14.22 \pm 23.59 | <0.001 | | <0.001 |
| Chemokines | | | | | | |
| CCL2 (MCP-1) | 146.62 \pm 218.59 | 2978.34 \pm 1701.76 | 766.09 \pm 1081.83 | 0.005 | | <0.001 |
| CCL3 (MIP-1 α) | 92.10 \pm 317.88 | 120.32 \pm 54.90 | 242.30 \pm 427.63 | 0.005 | | <0.001 |
| CCL4 (MIP-1 β) | 328.89 \pm 504.56 | 1743.79 \pm 1382.48 | 547.83 \pm 613.79 | 0.017 | | |
| CCL5 (RANTES) | 354.51 \pm 912.42 | 538.14 \pm 321.84 | 1265.71 \pm 3628.00 | | | |
| CCL11 (Eotaxin) | 173.82 \pm 210.18 | 159.41 \pm 90.89 | 366.70 \pm 278.58 | | | <0.001 |
| CXCL1 (GRO- α) | 66.30 \pm 238.37 | 223.36 \pm 163.92 | 362.02 \pm 837.42 | 0.001 | | <0.001 |
| CXCL10 (IP-10) | 58.26 \pm 104.27 | 409.06 \pm 493.48 | 180.81 \pm 253.36 | 0.001 | | <0.001 |
| CXCL12 (SDF-1) | 703.59 \pm 492.57 | 2296.96 \pm 1624.28 | 729.21 \pm 847.58 | 0.0023 | 0.03 | |
| Growth factors | | | | | | |
| BDNF | 214.23 \pm 375.93 | 937.66 \pm 950.02 | 702.81 \pm 596.03 | 0.007 | | <0.001 |
| EGF | 153.95 \pm 185.65 | 44.79 \pm 34.95 | 49.16 \pm 78.35 | | | <0.001 |
| FGF-2 | 25.12 \pm 33.02 | 29.29 \pm 40.12 | 27.82 \pm 68.44 | | | |
| HGF | 251.43 \pm 432.42 | 2482.39 \pm 1614.65 | 1637.04 \pm 2343.02 | <0.001 | | <0.001 |
| NGF | 111.03 \pm 137.94 | 46.49 \pm 36.48 | 34.76 \pm 55.73 | | | 0.001 |
| PDGF-BB | 144.04 \pm 469.85 | 2043.20 \pm 3406.57 | 769.97 \pm 960.02 | 0.003 | | <0.001 |
| PLGF-1 | 143.88 \pm 149.30 | 535.78 \pm 757.60 | 300.93 \pm 277.85 | 0.025 | | |
| VEGF-A | 239.01 \pm 574.98 | 1918.95 \pm 1363.06 | 1125.42 \pm 1466.87 | 0.001 | | <0.001 |
| VEGF-D (FIGF) | 111.09 \pm 167.33 | 54.17 \pm 35.37 | 33.96 \pm 24.76 | | | |

IFN, interferon; IL, interleukin; LIF, leukemia inhibitory factor; TNF, tumor necrosis factor; CCL, CC motif chemokine ligand; CXCL, CXC motif ligand; BDNF, brain derived neurotrophic factor; EGF, epidermal growth factor; FGF, fibroblast growth factor; GM-CSF, granulocyte macrophage colony stimulating factor; HGF, hepatocyte growth factor; NGF, nerve growth factor; PDGF, platelet derived growth factor; PLGF, placental growth factor ; SCF, stem cell factor; VEGF, vascular endothelial growth factor

Supplemental Figure 1. Dendrogram of clustering analysis that resulted in three clusters



Cluster 2 (n=5)

Cluster 1 (n=124)