

## SUPPLEMENTARY CONTENT

Table S1: Cytokine/Chemokine detection percentage (Those marked do not exceed 20% detection and are excluded from the analysis).

| Cytokine<br>-<br>Chemokine | Group    | n   | %    | CI 95% |       |
|----------------------------|----------|-----|------|--------|-------|
|                            |          |     |      | Low    | High  |
| BDNF                       | Mild     | 33  | 97.1 | 82.95  | 99.85 |
|                            | Moderate | 25  | 96.2 | 78.42  | 99.8  |
|                            | Severe   | 16  | 100  | 75.93  | 100   |
|                            | Critical | 32  | 100  | 86.66  | 100   |
|                            | Control  | 24  | 85.7 | 66.44  | 95.32 |
|                            | Total    | 130 | 95.6 | 90.23  | 98.19 |
| EGF                        | Mild     | 16  | 47.1 | 30.16  | 64.6  |
|                            | Moderate | 9   | 34.6 | 17.94  | 55.64 |
|                            | Severe   | 6   | 37.5 | 16.28  | 64.13 |
|                            | Critical | 11  | 34.4 | 19.17  | 53.23 |
|                            | Control  | 2   | 7.1  | 1.25   | 24.96 |
|                            | Total    | 44  | 32.4 | 24.73  | 40.99 |
| Eotaxin                    | Mild     | 34  | 100  | 87.36  | 100   |
|                            | Moderate | 26  | 100  | 83.98  | 100   |
|                            | Severe   | 16  | 100  | 75.93  | 100   |
|                            | Critical | 32  | 100  | 86.66  | 100   |
|                            | Control  | 28  | 100  | 84.98  | 100   |
|                            | Total    | 136 | 100  | 96.58  | 100   |
| FGF2                       | Mild     | 3   | 8.8  | 2.31   | 24.81 |
|                            | Moderate | 6   | 23.1 | 9.75   | 44.08 |
|                            | Severe   | 2   | 12.5 | 2.2    | 39.59 |
|                            | Critical | 1   | 3.1  | 0.16   | 18    |
|                            | Control  | 0   | 0    | 0      | 15.02 |
|                            | Total    | 12  | 8.8  | 4.85   | 15.23 |
| GMCSF                      | Mild     | 19  | 55.9 | 38.09  | 72.38 |
|                            | Moderate | 15  | 57.7 | 37.19  | 76.03 |
|                            | Severe   | 11  | 68.8 | 41.48  | 87.87 |
|                            | Critical | 15  | 46.9 | 29.51  | 64.97 |
|                            | Control  | 0   | 0    | 0      | 15.02 |
|                            | Total    | 60  | 44.1 | 35.7   | 52.87 |
| GROa                       | Mild     | 14  | 41.2 | 25.13  | 59.17 |
|                            | Moderate | 12  | 46.2 | 27.14  | 66.25 |
|                            | Severe   | 8   | 50   | 28     | 72    |
|                            | Critical | 9   | 28.1 | 14.4   | 46.98 |
|                            | Control  | 0   | 0    | 0      | 15.02 |
|                            | Total    | 43  | 31.6 | 24.07  | 40.23 |
| HGF                        | Mild     | 34  | 100  | 87.36  | 100   |
|                            | Moderate | 26  | 100  | 83.98  | 100   |
|                            | Severe   | 16  | 100  | 75.93  | 100   |

| Cytokine<br>-<br>Chemokine | Group    | n   | %    | CI 95% |       |
|----------------------------|----------|-----|------|--------|-------|
|                            |          |     |      | Low    | High  |
|                            | Critical | 32  | 100  | 86.66  | 100   |
|                            | Control  | 28  | 100  | 84.98  | 100   |
|                            | Total    | 136 | 100  | 96.58  | 100   |
| IFN $\alpha$               | Mild     | 20  | 58.8 | 40.83  | 74.87 |
|                            | Moderate | 11  | 42.3 | 23.97  | 62.81 |
|                            | Severe   | 7   | 43.8 | 20.75  | 69.45 |
|                            | Critical | 11  | 34.4 | 19.17  | 53.23 |
|                            | Control  | 1   | 3.6  | 0.19   | 20.24 |
|                            | Total    | 50  | 36.8 | 28.79  | 45.5  |
| IFN $\gamma$               | Mild     | 12  | 35.3 | 20.3   | 53.53 |
|                            | Moderate | 9   | 34.6 | 17.94  | 55.64 |
|                            | Severe   | 6   | 37.5 | 16.28  | 64.13 |
|                            | Critical | 17  | 53.1 | 35.03  | 70.49 |
|                            | Control  | 0   | 0    | 0      | 15.02 |
|                            | Total    | 44  | 32.4 | 24.73  | 40.99 |
| IL1 $\alpha$               | Mild     | 23  | 67.6 | 49.37  | 82.02 |
|                            | Moderate | 18  | 69.2 | 48.1   | 84.91 |
|                            | Severe   | 12  | 75   | 47.41  | 91.67 |
|                            | Critical | 26  | 81.2 | 62.96  | 92.14 |
|                            | Control  | 7   | 25   | 11.43  | 45.22 |
|                            | Total    | 86  | 63.2 | 54.5   | 71.21 |
| IL1 $\beta$                | Mild     | 34  | 100  | 87.36  | 100   |
|                            | Moderate | 26  | 100  | 83.98  | 100   |
|                            | Severe   | 16  | 100  | 75.93  | 100   |
|                            | Critical | 28  | 87.5 | 70.07  | 95.92 |
|                            | Control  | 6   | 21.4 | 9.03   | 41.46 |
|                            | Total    | 110 | 80.9 | 73.06  | 86.92 |
| IL10                       | Mild     | 17  | 50   | 34.07  | 65.93 |
|                            | Moderate | 17  | 65.4 | 44.36  | 82.06 |
|                            | Severe   | 11  | 68.8 | 41.48  | 87.87 |
|                            | Critical | 21  | 65.6 | 46.77  | 80.83 |
|                            | Control  | 1   | 3.6  | 0.19   | 20.24 |
|                            | Total    | 67  | 49.3 | 40.64  | 57.93 |
| IL12p70                    | Mild     | 5   | 14.7 | 5.54   | 31.83 |
|                            | Moderate | 6   | 23.1 | 9.75   | 44.08 |
|                            | Severe   | 4   | 25   | 8.33   | 52.59 |
|                            | Critical | 7   | 21.9 | 9.94   | 40.44 |
|                            | Control  | 0   | 0    | 0      | 15.02 |
|                            | Total    | 22  | 16.2 | 10.63  | 23.69 |
| IL13                       | Mild     | 13  | 38.2 | 22.69  | 56.38 |
|                            | Moderate | 10  | 38.5 | 20.91  | 59.27 |
|                            | Severe   | 6   | 37.5 | 16.28  | 64.13 |
|                            | Critical | 8   | 25   | 12.13  | 43.75 |
|                            | Control  | 1   | 3.6  | 0.19   | 20.24 |

| Cytokine<br>-<br>Chemokine | Group    | n   | %    | CI 95% |       |
|----------------------------|----------|-----|------|--------|-------|
|                            |          |     |      | Low    | High  |
|                            | Total    | 38  | 27.9 | 20.76  | 36.4  |
| IL15                       | Mild     | 33  | 97.1 | 82.95  | 99.85 |
|                            | Moderate | 26  | 100  | 83.98  | 100   |
|                            | Severe   | 16  | 100  | 75.93  | 100   |
|                            | Critical | 28  | 87.5 | 70.07  | 95.92 |
|                            | Control  | 11  | 39.3 | 22.13  | 59.27 |
|                            | Total    | 114 | 83.8 | 76.31  | 89.37 |
| IL17a                      | Mild     | 33  | 97.1 | 82.95  | 99.85 |
|                            | Moderate | 26  | 100  | 83.98  | 100   |
|                            | Severe   | 16  | 100  | 75.93  | 100   |
|                            | Critical | 30  | 93.8 | 77.78  | 98.91 |
|                            | Control  | 7   | 25   | 11.43  | 45.22 |
|                            | Total    | 112 | 82.4 | 74.68  | 88.15 |
| IL18                       | Mild     | 32  | 94.1 | 78.94  | 98.97 |
|                            | Moderate | 25  | 96.2 | 78.42  | 99.8  |
|                            | Severe   | 15  | 93.8 | 67.71  | 99.67 |
|                            | Critical | 31  | 96.9 | 82     | 99.84 |
|                            | Control  | 17  | 60.7 | 40.73  | 77.87 |
|                            | Total    | 120 | 88.2 | 81.32  | 92.92 |
| IL1RA                      | Mild     | 32  | 94.1 | 78.94  | 98.97 |
|                            | Moderate | 24  | 92.3 | 73.4   | 98.66 |
|                            | Severe   | 15  | 93.8 | 67.71  | 99.67 |
|                            | Critical | 30  | 93.8 | 77.78  | 98.91 |
|                            | Control  | 4   | 14.3 | 4.68   | 33.56 |
|                            | Total    | 105 | 77.2 | 69.07  | 83.77 |
| IL2                        | Mild     | 31  | 91.2 | 75.19  | 97.69 |
|                            | Moderate | 23  | 88.5 | 68.72  | 96.97 |
|                            | Severe   | 16  | 100  | 75.93  | 100   |
|                            | Critical | 23  | 71.9 | 53.02  | 85.6  |
|                            | Control  | 5   | 17.9 | 6.77   | 37.58 |
|                            | Total    | 98  | 72.1 | 63.6   | 79.24 |
| IL21                       | Mild     | 7   | 20.6 | 9.34   | 38.41 |
|                            | Moderate | 7   | 26.9 | 12.35  | 48.05 |
|                            | Severe   | 3   | 18.8 | 4.97   | 46.31 |
|                            | Critical | 5   | 15.6 | 5.9    | 33.55 |
|                            | Control  | 3   | 10.7 | 2.81   | 29.37 |
|                            | Total    | 25  | 18.4 | 12.46  | 26.13 |
| IL22                       | Mild     | 6   | 17.6 | 7.39   | 35.17 |
|                            | Moderate | 6   | 23.1 | 9.75   | 44.08 |
|                            | Severe   | 3   | 18.8 | 4.97   | 46.31 |
|                            | Critical | 12  | 37.5 | 21.66  | 56.25 |
|                            | Control  | 4   | 14.3 | 4.68   | 33.56 |
|                            | Total    | 31  | 22.8 | 16.23  | 30.93 |
| IL23                       | Mild     | 4   | 11.8 | 3.84   | 28.39 |

| Cytokine<br>-<br>Chemokine | Group    | n   | %    | CI 95% |       |
|----------------------------|----------|-----|------|--------|-------|
|                            |          |     |      | Low    | High  |
|                            | Moderate | 2   | 7.7  | 1.34   | 26.6  |
|                            | Severe   | 2   | 12.5 | 2.2    | 39.59 |
|                            | Critical | 1   | 3.1  | 0.16   | 18    |
|                            | Control  | 0   | 0    | 0      | 15.02 |
|                            | Total    | 9   | 6.6  | 3.26   | 12.55 |
| IL27                       | Mild     | 13  | 38.2 | 22.69  | 56.38 |
|                            | Moderate | 8   | 30.8 | 15.09  | 51.9  |
|                            | Severe   | 4   | 25   | 8.33   | 52.59 |
|                            | Critical | 8   | 25   | 12.13  | 43.75 |
|                            | Control  | 1   | 3.6  | 0.19   | 20.24 |
|                            | Total    | 34  | 25   | 18.15  | 33.29 |
| IL31                       | Mild     | 3   | 8.8  | 2.31   | 24.81 |
|                            | Moderate | 3   | 11.5 | 3.03   | 31.28 |
|                            | Severe   | 3   | 18.8 | 4.97   | 46.31 |
|                            | Critical | 0   | 0    | 0      | 13.34 |
|                            | Control  | 0   | 0    | 0      | 15.02 |
|                            | Total    | 9   | 6.6  | 3.26   | 12.55 |
| IL4                        | Mild     | 9   | 26.5 | 13.51  | 44.65 |
|                            | Moderate | 9   | 34.6 | 17.94  | 55.64 |
|                            | Severe   | 6   | 37.5 | 16.28  | 64.13 |
|                            | Critical | 7   | 21.9 | 9.94   | 40.44 |
|                            | Control  | 0   | 0    | 0      | 15.02 |
|                            | Total    | 31  | 22.8 | 16.23  | 30.93 |
| IL5                        | Mild     | 16  | 47.1 | 30.16  | 64.6  |
|                            | Moderate | 12  | 46.2 | 27.14  | 66.25 |
|                            | Severe   | 7   | 43.8 | 20.75  | 69.45 |
|                            | Critical | 14  | 43.8 | 26.84  | 62.12 |
|                            | Control  | 1   | 3.6  | 0.19   | 20.24 |
|                            | Total    | 50  | 36.8 | 28.79  | 45.5  |
| IL6                        | Mild     | 27  | 79.4 | 61.59  | 90.66 |
|                            | Moderate | 20  | 76.9 | 55.92  | 90.25 |
|                            | Severe   | 14  | 87.5 | 60.41  | 97.8  |
|                            | Critical | 19  | 59.4 | 40.79  | 75.78 |
|                            | Control  | 2   | 7.1  | 1.25   | 24.96 |
|                            | Total    | 82  | 60.3 | 51.53  | 68.47 |
| IL7                        | Mild     | 32  | 94.1 | 78.94  | 98.97 |
|                            | Moderate | 22  | 84.6 | 64.27  | 94.95 |
|                            | Severe   | 15  | 93.8 | 67.71  | 99.67 |
|                            | Critical | 31  | 96.9 | 82     | 99.84 |
|                            | Control  | 4   | 14.3 | 4.68   | 33.56 |
|                            | Total    | 104 | 76.5 | 68.28  | 83.13 |
| IL8                        | Mild     | 11  | 32.4 | 17.98  | 50.63 |
|                            | Moderate | 9   | 34.6 | 17.94  | 55.64 |
|                            | Severe   | 8   | 50   | 28     | 72    |

| Cytokine<br>-<br>Chemokine | Group    | n   | %    | CI 95% |       |
|----------------------------|----------|-----|------|--------|-------|
|                            |          |     |      | Low    | High  |
|                            | Critical | 11  | 34.4 | 19.17  | 53.23 |
|                            | Control  | 3   | 10.7 | 2.81   | 29.37 |
|                            | Total    | 42  | 30.9 | 23.4   | 39.46 |
| <b>IL9</b>                 | Mild     | 1   | 2.9  | 0.15   | 17.05 |
|                            | Moderate | 1   | 3.8  | 0.2    | 21.58 |
|                            | Severe   | 0   | 0    | 0      | 24.07 |
|                            | Critical | 0   | 0    | 0      | 13.34 |
|                            | Control  | 0   | 0    | 0      | 15.02 |
|                            | Total    | 2   | 1.5  | 0.26   | 5.75  |
| IP1b                       | Mild     | 34  | 100  | 87.36  | 100   |
|                            | Moderate | 26  | 100  | 83.98  | 100   |
|                            | Severe   | 16  | 100  | 75.93  | 100   |
|                            | Critical | 32  | 100  | 86.66  | 100   |
|                            | Control  | 28  | 100  | 84.98  | 100   |
|                            | Total    | 136 | 100  | 96.58  | 100   |
| IP10                       | Mild     | 34  | 100  | 87.36  | 100   |
|                            | Moderate | 26  | 100  | 83.98  | 100   |
|                            | Severe   | 16  | 100  | 75.93  | 100   |
|                            | Critical | 32  | 100  | 86.66  | 100   |
|                            | Control  | 28  | 100  | 84.98  | 100   |
|                            | Total    | 136 | 100  | 96.58  | 100   |
| LIF                        | Mild     | 27  | 79.4 | 61.59  | 90.66 |
|                            | Moderate | 17  | 65.4 | 44.36  | 82.06 |
|                            | Severe   | 10  | 62.5 | 35.87  | 83.72 |
|                            | Critical | 21  | 65.6 | 46.77  | 80.83 |
|                            | Control  | 4   | 14.3 | 4.68   | 33.56 |
|                            | Total    | 79  | 58.1 | 49.32  | 66.39 |
| MCP1                       | Mild     | 34  | 100  | 87.36  | 100   |
|                            | Moderate | 25  | 96.2 | 78.42  | 99.8  |
|                            | Severe   | 16  | 100  | 75.93  | 100   |
|                            | Critical | 32  | 100  | 86.66  | 100   |
|                            | Control  | 27  | 96.4 | 79.76  | 99.81 |
|                            | Total    | 134 | 98.5 | 94.25  | 99.74 |
| MIP1a                      | Mild     | 22  | 64.7 | 46.47  | 79.7  |
|                            | Moderate | 19  | 73.1 | 51.95  | 87.65 |
|                            | Severe   | 13  | 81.2 | 53.69  | 95.03 |
|                            | Critical | 18  | 56.2 | 37.88  | 73.16 |
|                            | Control  | 11  | 39.3 | 22.13  | 59.27 |
|                            | Total    | 83  | 61   | 52.27  | 69.16 |
| <b>NGFb</b>                | Mild     | 3   | 8.8  | 2.31   | 24.81 |
|                            | Moderate | 0   | 0    | 0      | 16.02 |
|                            | Severe   | 2   | 12.5 | 2.2    | 39.59 |
|                            | Critical | 4   | 12.5 | 4.08   | 29.93 |
|                            | Control  | 0   | 0    | 0      | 15.02 |
|                            |          |     |      |        |       |

| Cytokine<br>-<br>Chemokine | Group    | n   | %    | CI 95% |       |
|----------------------------|----------|-----|------|--------|-------|
|                            |          |     |      | Low    | High  |
|                            | Total    | 9   | 6.6  | 3.26   | 12.55 |
| PDGFBB                     | Mild     | 34  | 100  | 87.36  | 100   |
|                            | Moderate | 26  | 100  | 83.98  | 100   |
|                            | Severe   | 16  | 100  | 75.93  | 100   |
|                            | Critical | 32  | 100  | 86.66  | 100   |
|                            | Control  | 28  | 100  | 84.98  | 100   |
|                            | Total    | 136 | 100  | 96.58  | 100   |
| PIGF1                      | Mild     | 12  | 35.3 | 20.3   | 53.53 |
|                            | Moderate | 6   | 23.1 | 9.75   | 44.08 |
|                            | Severe   | 10  | 62.5 | 35.87  | 83.72 |
|                            | Critical | 23  | 71.9 | 53.02  | 85.6  |
|                            | Control  | 4   | 14.3 | 4.68   | 33.56 |
|                            | Total    | 55  | 40.4 | 32.22  | 49.21 |
| RANTES                     | Mild     | 34  | 100  | 87.36  | 100   |
|                            | Moderate | 26  | 100  | 83.98  | 100   |
|                            | Severe   | 16  | 100  | 75.93  | 100   |
|                            | Critical | 32  | 100  | 86.66  | 100   |
|                            | Control  | 28  | 100  | 84.98  | 100   |
|                            | Total    | 136 | 100  | 96.58  | 100   |
| SCF                        | Mild     | 34  | 100  | 87.36  | 100   |
|                            | Moderate | 25  | 96.2 | 78.42  | 99.8  |
|                            | Severe   | 15  | 93.8 | 67.71  | 99.67 |
|                            | Critical | 32  | 100  | 86.66  | 100   |
|                            | Control  | 25  | 89.3 | 70.63  | 97.19 |
|                            | Total    | 131 | 96.3 | 91.19  | 98.64 |
| SDF1a                      | Mild     | 34  | 100  | 87.36  | 100   |
|                            | Moderate | 24  | 92.3 | 73.4   | 98.66 |
|                            | Severe   | 15  | 93.8 | 67.71  | 99.67 |
|                            | Critical | 32  | 100  | 86.66  | 100   |
|                            | Control  | 28  | 100  | 84.98  | 100   |
|                            | Total    | 133 | 97.8 | 93.19  | 99.43 |
| TNFa                       | Mild     | 26  | 76.5 | 58.43  | 88.62 |
|                            | Moderate | 17  | 65.4 | 44.36  | 82.06 |
|                            | Severe   | 15  | 93.8 | 67.71  | 99.67 |
|                            | Critical | 23  | 71.9 | 53.02  | 85.6  |
|                            | Control  | 3   | 10.7 | 2.81   | 29.37 |
|                            | Total    | 84  | 61.8 | 53.01  | 69.85 |
| TNFb                       | Mild     | 1   | 2.9  | 0.15   | 17.05 |
|                            | Moderate | 0   | 0    | 0      | 16.02 |
|                            | Severe   | 0   | 0    | 0      | 24.07 |
|                            | Critical | 0   | 0    | 0      | 13.34 |
|                            | Control  | 0   | 0    | 0      | 15.02 |
|                            | Total    | 1   | 0.7  | 0.04   | 4.64  |
| VEGFA                      | Mild     | 34  | 100  | 87.36  | 100   |

| Cytokine<br>-<br>Chemokine | Group    | n   | %    | CI 95% |       |
|----------------------------|----------|-----|------|--------|-------|
|                            |          |     |      | Low    | High  |
|                            | Moderate | 26  | 100  | 83.98  | 100   |
|                            | Severe   | 16  | 100  | 75.93  | 100   |
|                            | Critical | 32  | 100  | 86.66  | 100   |
|                            | Control  | 28  | 100  | 84.98  | 100   |
|                            | Total    | 136 | 100  | 96.58  | 100   |
|                            |          |     |      |        |       |
| VEGFD                      | Mild     | 34  | 100  | 87.36  | 100   |
|                            | Moderate | 26  | 100  | 83.98  | 100   |
|                            | Severe   | 16  | 100  | 75.93  | 100   |
|                            | Critical | 31  | 96.9 | 82     | 99.84 |
|                            | Control  | 24  | 85.7 | 66.44  | 95.32 |
|                            | Total    | 131 | 96.3 | 91.19  | 98.64 |

Table S2: Comparison between the value of cytokines according to their degree of severity.

| <b>Cytokine</b>  | <b>Mild</b>   |        | <b>Moderate</b> |        | <b>Severe</b> |         | <b>Critical</b> |        |
|------------------|---------------|--------|-----------------|--------|---------------|---------|-----------------|--------|
| <b>-</b>         | <b>(N=34)</b> |        | <b>(N=26)</b>   |        | <b>(N=16)</b> |         | <b>(N=32)</b>   |        |
| <b>Chemokine</b> | Med.          | IQR    | Med.            | IQR    | Med.          | IQR     | Med.            | IQR    |
| BDNF             | 60.52         | 184.11 | 58.95           | 205.2  | 53.4          | 28.28   | 66.6            | 111.61 |
| EGF              | 1.96          | 8.47   | 2.69            | 11.96  | 1.54          | 13.52   | 2.26            | 2.75   |
| Eotaxin          | 16.6          | 9.74   | 14.12           | 10.76  | 12.05         | 5.88    | 13.57           | 8.47   |
| GMCSF            | 10.95         | 34.74  | 14.57           | 26.96  | 10.32         | 18.88   | 11.11           | 13.7   |
| GRO- $\alpha$    | 3.48          | 5.26   | 3.54            | 2.24   | 2.25          | 7.76    | 2.82            | 2.61   |
| HGF              | 128.75        | 123.09 | 137.48          | 89.1   | 155.25        | 210     | 411.25          | 602.96 |
| IFN- $\alpha$    | 0.75          | 2.76   | 0.59            | 1.55   | 0.32          | 2.42    | 0.42            | 0.46   |
| IFN- $\gamma$    | 7.88          | 5.74   | 9.36            | 6.17   | 7.04          | 12.67   | 9.72            | 8.28   |
| IL-1 $\alpha$    | 1.33          | 6.32   | 1.51            | 6.74   | 3.69          | 7.19    | 3.14            | 11.54  |
| IL-1 $\beta$     | 6.88          | 11.02  | 6.28            | 7.01   | 6.55          | 10.53   | 6.61            | 10.72  |
| IL-10            | 1.62          | 1.54   | 1.8             | 1.13   | 1.68          | 3.19    | 1.8             | 2.88   |
| IL-13            | 2.37          | 3.38   | 2.51            | 2.97   | 1.2           | 1.67    | 2.25            | 1.71   |
| IL-15            | 13.3          | 19.51  | 13.94           | 15.56  | 13.82         | 10.82   | 8.33            | 21.65  |
| IL-17 $\alpha$   | 8.03          | 12.53  | 5.9             | 7.96   | 7.2           | 15.55   | 6.35            | 19.81  |
| IL-18            | 46.38         | 48.1   | 39.17           | 42.05  | 27.73         | 58.84   | 60.92           | 61.38  |
| IL1-RA           | 488           | 731.72 | 652.6           | 741.21 | 556           | 1200.88 | 718.67          | 1332   |
| IL-2             | 15.02         | 21.64  | 12.52           | 19.7   | 18.38         | 16.77   | 10.91           | 17.57  |
| IL-22            | 1.73          | 13.21  | 6.96            | 22.03  | 1.23          | 16.41   | 9.43            | 56     |
| IL-27            | 19.5          | 48.36  | 24.82           | 35.34  | 7.41          | 12.87   | 20.44           | 22.58  |
| IL-4             | 4.92          | 7.07   | 7.88            | 6.47   | 4.55          | 6.24    | 5.82            | 4.91   |
| IL-5             | 4.25          | 19.5   | 9.94            | 15.02  | 3.32          | 4.85    | 6.91            | 45.94  |
| IL-6             | 10.61         | 16.33  | 16.23           | 20.28  | 20.27         | 34.54   | 8.18            | 27.14  |
| IL-7             | 1.69          | 2.93   | 1.45            | 2.73   | 1.88          | 2.71    | 1.57            | 3.06   |
| IL8              | 1.79          | 2.41   | 2               | 6.93   | 1.87          | 5.51    | 2.08            | 5.06   |
| IP-1 $\beta$     | 45            | 39.61  | 39.29           | 49.35  | 51.12         | 41.62   | 56.7            | 39.52  |
| IP-10            | 43.83         | 41.91  | 49              | 29.8   | 35.67         | 45.23   | 46.78           | 41.15  |
| LIF              | 17.32         | 15.81  | 13.53           | 10.07  | 11.81         | 17.75   | 13.48           | 20.18  |



|                |        |        |        |        |       |        |        |        |
|----------------|--------|--------|--------|--------|-------|--------|--------|--------|
| MCP1           | 42.83  | 27.01  | 32.77  | 20.51  | 36.97 | 28.25  | 54.28  | 63.05  |
| MIP-1 $\alpha$ | 3.37   | 12.1   | 3.34   | 7.04   | 3.98  | 14.34  | 2.51   | 4.7    |
| PDGFBB         | 189.25 | 508.73 | 241.75 | 563.48 | 212   | 243    | 639.5  | 1207   |
| PIGF1          | 2.86   | 34.82  | 4.15   | 9.03   | 39.42 | 169.11 | 29.15  | 102.98 |
| RANTES         | 21.35  | 20.81  | 22.04  | 10.74  | 24.92 | 25.99  | 22.95  | 12.92  |
| SCF            | 5.94   | 5.32   | 7.86   | 5.72   | 6.84  | 4.4    | 7.1    | 8.71   |
| SDF-1 $\alpha$ | 632.5  | 396.5  | 610.5  | 471.38 | 651.5 | 971    | 736.75 | 832.92 |
| TNF- $\alpha$  | 5.61   | 11.59  | 5.87   | 7.3    | 6.29  | 9.28   | 7.92   | 10.39  |
| VEGFA          | 96.72  | 144.68 | 107.55 | 90.48  | 153   | 152.52 | 216.83 | 282.12 |
| VEGFD          | 13.02  | 11.48  | 12.9   | 13.86  | 13.72 | 12.2   | 11.3   | 9.59   |

*Med, Median; IQR, interquartile range.*

Table S3: Likelihood-ratio test (LRT) to check the assumption of proportional odds by comparing the proportional odds model with a multinomial model.

| Cytokine | Log Likelihood |           | LRT     | p-value       |
|----------|----------------|-----------|---------|---------------|
|          | M1             | M2        |         |               |
| BDNF     | -145.394       | -140.8061 | 9.1757  | <b>0.0102</b> |
| EGF      | -145.2106      | -141.2928 | 7.8357  | <b>0.0199</b> |
| Eotaxin  | -144.8607      | -140.3148 | 9.0918  | <b>0.0106</b> |
| GMCSF    | -145.2246      | -141.0904 | 8.2684  | <b>0.016</b>  |
| GROa     | -144.9565      | -140.7072 | 8.4986  | <b>0.0143</b> |
| HGF      | -129.1737      | -122.0511 | 14.2452 | <b>0.0008</b> |
| IFNa     | -144.782       | -140.8383 | 7.8875  | <b>0.0194</b> |
| IFNg     | -145.2699      | -140.5105 | 9.5188  | <b>0.0086</b> |
| IL1a     | -143.556       | -139.3312 | 8.4497  | <b>0.0146</b> |
| IL1b     | -144.7608      | -140.877  | 7.7676  | <b>0.0206</b> |
| IL10     | -145.2825      | -141.6318 | 7.3014  | <b>0.0260</b> |
| IL13     | -145.2908      | -140.2268 | 10.1281 | <b>0.0063</b> |
| IL15     | -143.1028      | -138.9887 | 8.2282  | <b>0.0163</b> |
| IL17a    | -145.0937      | -140.9091 | 8.3692  | <b>0.0152</b> |
| IL18     | -144.856       | -138.6082 | 12.4957 | <b>0.0019</b> |
| IL1RA    | -145.333       | -141.7225 | 7.221   | <b>0.0270</b> |
| IL2      | -144.2746      | -139.8474 | 8.8544  | <b>0.0119</b> |
| IL22     | -144.9003      | -140.172  | 9.4566  | <b>0.0088</b> |
| IL27     | -145.2467      | -139.8769 | 10.7395 | <b>0.0047</b> |
| IL4      | -145.4409      | -140.766  | 9.3498  | <b>0.0093</b> |
| IL5      | -145.428       | -139.3138 | 12.2284 | <b>0.0022</b> |
| IL6      | -145.4587      | -140.0344 | 10.8487 | <b>0.0044</b> |
| IL7      | -145.4341      | -141.7656 | 7.3371  | <b>0.0255</b> |
| IL8      | -145.2873      | -141.1431 | 8.2884  | <b>0.0159</b> |
| IP1b     | -145.2169      | -141.375  | 7.6837  | <b>0.0215</b> |
| IP10     | -145.396       | -140.8723 | 9.0474  | <b>0.0108</b> |
| LIF      | -145.4514      | -140.6877 | 9.5273  | <b>0.0085</b> |
| MCP1     | -143.782       | -136.9834 | 13.5972 | <b>0.0011</b> |
| MIP1a    | -145.458       | -141.5284 | 7.8591  | <b>0.0197</b> |
| PDGFBB   | -142.6643      | -136.623  | 12.0826 | <b>0.0024</b> |
| PIGF1    | -142.0374      | -137.6666 | 8.7416  | <b>0.0126</b> |
| RANTES   | -145.2314      | -140.8309 | 8.8009  | <b>0.0123</b> |
| SCF      | -145.1679      | -141.3803 | 7.5753  | <b>0.0226</b> |
| SDF1a    | -145.0041      | -140.804  | 8.4002  | <b>0.0150</b> |
| TNFa     | -145.3963      | -141.73   | 7.3326  | <b>0.0256</b> |
| VEGFA    | -143.154       | -139.2963 | 7.7154  | <b>0.0211</b> |
| VEGFD    | -144.9091      | -141.1052 | 7.6079  | <b>0.0223</b> |