

**Supplementary Table 3. Relative numbers of PBMC cells and Polymorphonuclear Neutrophils and its respective Mean Fluorescence Intensity (MFI) of severe COVID-19 patients.**

| Immune markers and Phenotypes | ICU patients          |                       | p value* |
|-------------------------------|-----------------------|-----------------------|----------|
|                               | Obese (n=9)           | Non-obese (n=18)      |          |
| PBMC cells                    |                       |                       |          |
| Monocytes %                   | 8.21 [2.80 - 12.92]   | 13.30 [6.13 - 22.25]  | 0.08     |
| CD14+                         | 61.80 [36.95 - 86.60] | 74.40 [55.35 - 90.18] | 0.43     |
| CD14+ MFI                     | 8045 [3595 - 15717]   | 8928 [6322 - 14991]   | 0.62     |
| CD14+CD274+                   | 1.56 [0.63 - 9.29]    | 3.40 [1.10 - 69.43]   | 0.46     |
| CD14+CD274+ MFI               | 2539 [2056 - 4208]    | 1974 [1485 - 2496]    | 0.04     |
| CD14+CD163+                   | 92.80 [77.95 - 95.35] | 87.20 [59.35 - 96.13] | 0.55     |
| CD14+CD163+ MFI               | 5550 [3293 - 12417]   | 3486 [2700 - 9227]    | 0.40     |
| CD14+CD80+                    | 0.80 [0.33 - 40.65]   | 1.05 [0.30 - 6.44]    | 0.85     |
| CD14+CD80+ MFI                | 5680 [2195 - 9526]    | 3825 [3330 - 4871]    | 0.08     |
| CD14+HLA-DR+                  | 65.20 [50.15 - 89.30] | 66.80 [46.28 - 86.18] | 0.91     |
| CD14+HLA-DR+ MFI              | 4258 [2843 - 9449]    | 6810 [4636 - 9148]    | 0.16     |
| CD14+CD163+CD274+HLA-DR+      | 0.66 [ 0.10 - 3.30]   | 1.27 [ 0.47 - 23.80]  | 0.45     |
| CD14+CD163+CD274-HLA-DR+      | 50.00 [32.90 - 86.10] | 40.20 [8.72 - 80.33]  | 0.56     |
| CD14+CD163-CD274+HLA-DR+      | 0.08 [0.00 - 0.37]    | 0.07 [0.00 - 0.34]    | 0.79     |
| Low Density Neutrophils %     | 8.96 [5.58 - 30.25]   | 5.72 [2.14 - 15.38]   | 0.32     |
| CD11b+                        | 95.30 [75.20 - 98.25] | 95.25 [79.38 - 98.65] | 0.84     |
| CD11b+CD14+                   | 5.71 [4.92 - 17.40]   | 15.80 [6.36 - 40.73]  | 0.37     |
| CD11b+CD14+ MFI               | 7662 [4150 - 11574]   | 7825 [4900 - 12555]   | 0.78     |
| CD11b+CD274+                  | 6.69 [1.43 - 90.35]   | 20.60 [2.28 - 72.43]  | 0.93     |
| CD11b+CD274+ MFI              | 2079 [1607 - 2857]    | 1747 [1184 - 2755]    | 0.56     |
| CD11b+HLA-DR+                 | 41.00 [0.78 - 63.55]  | 37.95 [1.98 - 68.58]  | 0.85     |
| CD11b+HLA-DR+ MFI             | 8085 [5214 - 18268]   | 4677 [2869 - 10822]   | 0.15     |
| CD11b+CD14+CD274+HLA-DR+      | 0.98 [0.13 - 13.56]   | 1.37 [0.28 - 3.01]    | 0.99     |
| CD11b+CD14-CD274+HLA-DR+      | 1.38 [0.69 - 3.30]    | 2.35 [0.24 - 19.60]   | 0.45     |
| CD11b+CD14+CD274+HLA-DR-      | 0.09 [0.00 - 30.30]   | 0.21 [0.02 - 5.81]    | 0.97     |
| Natural Killer CD3- %         | 58.40 [34.65 - 76.35] | 22.35 [12.73 - 44.98] | 0.01     |
| CD11c+                        | 8.38 [1.20 - 22.90]   | 8.09 [0.46 - 21.15]   | 0.97     |
| CD11c+ MFI                    | 2495 [1830 - 2926]    | 2701 [2248 - 3197]    | 0.39     |
| CD16+                         | 6.30 [3.12 - 16.80]   | 10.90 [0.44 - 17.68]  | 0.99     |
| CD16+ MFI                     | 13823 [5067 - 25545]  | 5892 [3168 - 20606]   | 0.16     |
| CD56+                         | 23.50 [12.75 - 45.60] | 23.20 [14.80 - 40.93] | 0.69     |
| CD56+ MFI                     | 9588 [6492 - 16401]   | 8567 [5756 - 12254]   | 0.62     |
| CD16+CD56+                    | 5.93 [2.66 - 15.40]   | 10.24 [0.23 - 16.18]  | 0.96     |
| CD16+CD56-                    | 0.92 [0.18 - 1.36]    | 0.26 [0.01 - 0.82]    | 0.24     |
| CD16-CD56+                    | 8.62 [4.38 - 37.65]   | 14.35 [6.40 - 39.98]  | 0.59     |
| Polymorphonuclear cells       |                       |                       |          |
| High Density Neutrophils %    | 93.50 [91.00 - 95.10] | 81.60 [66.15 - 92.05] | 0.02     |
| CD11b+                        | 99.80 [99.25 - 99.90] | 99.50 [98.35 - 99.75] | 0.13     |
| CD11b+TREM-1+                 | 98.00 [94.65 - 99.60] | 85.50 [43.90 - 98.85] | 0.10     |
| CD11b+TREM-1+ MFI             | 4824 [2741 - 7014]    | 2014 [1490 - 3580]    | 0.005    |
| CD11b+CD16+                   | 97.35 [93.28 - 99.25] | 85.90 [73.55 - 98.40] | 0.15     |
| CD11b+CD16+ MFI               | 30250 [13633 - 40148] | 8921 [4334 - 18117]   | 0.01     |
| CD11b+CD182+                  | 95.60 [91.85 - 99.40] | 92.10 [51.20 - 98.50] | 0.34     |
| CD11b+CD182+ MFI              | 2796 [1818 - 4397]    | 2833 [1875 - 3912]    | 0.91     |

|                                 |                              |                             |             |
|---------------------------------|------------------------------|-----------------------------|-------------|
| <b>CD11b+CD16+CD182+TREM-1+</b> | <b>91.20 [64.35 - 96.65]</b> | <b>58.50 [6.26 - 82.70]</b> | <b>0.01</b> |
| CD11b+CD16+CD182-TREM-1+        | 0.69 [0.11 - 2.08]           | 0.98 [0.16 - 8.10]          | 0.63        |
| CD11c+                          | 94.20 [57.90 - 99.55]        | 92.30 [18.65 - 98.88]       | 0.32        |
| CD11c+CD274+                    | 1.05 [0.39 - 3.83]           | 1.38 [0.44 - 11.19]         | 0.42        |
| CD11c+CD274+ MFI                | 2010 [1294 - 3124]           | 1825 [1432 - 3902]          | 0.76        |
| CD11c+CD279+                    | 6.48 [0.92 - 13.00]          | 4.90 [1.08 - 36.25]         | 0.77        |
| CD11c+CD279+ MFI                | 6145 [2571 - 7214]           | 3639 [2373 - 5617]          | 0.27        |
| CD11c+HLA-DR+                   | 12.00 [0.27 - 85.40]         | 2.59 [0.37 - 7.86]          | 0.44        |
| CD11c+HLA-DR+ MFI               | 3829 [3417 - 5565]           | 4992 [2133 - 18628]         | 0.76        |
| CD11c+CD274+CD279+HLA-DR+       | 0.06 [0.02 - 0.49]           | 0.14 [0.02 - 1.58]          | 0.75        |
| CD11c+CD274+CD279+              | 0.15 [0.09 - 1.31]           | 0.45 [0.12 - 2.80]          | 0.41        |
| CD11c+CD274-CD279+              | 4.74 [0.78 - 12.95]          | 2.47 [0.21 - 6.52]          | 0.22        |
| CD11c+CD274+CD279-              | 0.32 [0.10 - 1.08]           | 1.01 [0.03 - 4.37]          | 0.36        |

Legend: MFI: mean fluorescence intensity. Non-parametric data presented as median and 25-75th percentiles. Significant differences between groups are highlighted in bold. \* p<0.05 by T-test or Mann-Whitney.