**SUPPLEMENTARY TABLES**

**Supplementary Table 1. Cell-free analytes measured in plasma.**

| Marker Name                                                                 |
|-----------------------------------------------------------------------------|
| BNP                                                                         |
| CMV IgG                                                                     |
| CRP                                                                         |
| CXCL13                                                                      |
| D-Dimer                                                                    |
| Intestinal fatty acid binding protein (iFABP)                               |
| Interferon (IFN)-a                                                          |
| Interferon-g                                                                |
| Interleukin (IL)-10                                                         |
| Interleukin-12p70                                                           |
| Interleukin-17A                                                             |
| Interleukin-1B                                                              |
| Interleukin-2                                                               |
| Interleukin-21                                                              |
| Interleukin-6                                                               |
| Interleukin-8                                                               |
| LPS                                                                         |
| MCP1                                                                        |
| Neopterin                                                                   |
| Soluble CD14                                                                |
| Soluble CD163                                                               |
| Soluble CD25                                                                |
| Soluble ICAM                                                                |
| Soluble TNFRI                                                               |
| Soluble TNFRII                                                              |
| Soluble VCAM                                                                |
| TNF                                                                         |

**Supplementary Table 2. Multiparameter flow cytometry panels used to obtain immune-phenotypic data.**

| Fluorochrome/Channel | Immune Activation Panel | Immuno-regulatory Panel | Immune Checkpoint Panel | T helper subset Panel | B cell Panel | Monocyte/NK Panel |
|----------------------|-------------------------|--------------------------|-------------------------|-----------------------|--------------|-------------------|
| BUV395               | CD3                     | CD3                      | CD3                     | CD3                   | CD3          | CD3               |
| BV421                | ICOS                    | BCL6                     | CD57                    | CCR4                  | CD71         | PDL1              |
| BV605                | CXCR3                   | CD127                    | PD1                     | CXCR3                 | CD80         | CD56              |
| BV650                | PD1                     | CD4                      | PD1                     | PDL1                  | CD11b        |                   |
| BV711                | Ki-67                   | CD25                     | TBET                    | CD95                  | Ki-67        | Inv NKT Cell      |
| AQUA                 | Live/Dead               | Live/Dead                | Live/Dead               | Live/Dead             | Live/Dead    | Live/Dead         |
| APC/AF647            | CXCR5                   | CXCR5                    | EOMES                   | CXCR5                 | FCRL4        | CD16              |
| Immune Parameter                              | Coefficient_HC | Coefficient_HIV |
|----------------------------------------------|----------------|----------------|
| CD8/TCM/CD38- HLADR+ %                      | 0.376          | 0.381          |
| CD8/TN/CD28 %                               | 0.357          | 0.228          |
| CD8/CD38 - HLADR+ %                         | 0.344          | 0.432          |
| CD4/TN/2B4 %                                | 0.327          | 0.264          |
| CD8/TN/CD38- HLADR+ %                       | 0.307          | 0.443          |
| CD8/TCM/PD1 MFI                             | 0.307          | 0.37           |
| CD4/TN/CD38- HLADR+ %                       | 0.298          | 0.424          |
| CD8/TN/TIGIT %                              | 0.286          | 0.257          |
| CD4/TEFF/CCR5 MFI                           | 0.283          | 0.197          |
| CD4/TEM                                     | 0.263          | 0.293          |
| CD8/TN/CD57 %                               | 0.251          | 0.344          |
| sCD163                                      | 0.231          | 0.259          |
| CD4/CD38- HLADR+ %                          | 0.229          | 0.499          |
| Inflammatory Mono                            | 0.221          | 0.338          |
| pTFH/TH2/CD38- HLADR+ %                     | 0.202          | 0.372          |
| CD8/TEFF/CD57 %                             | 0.201          | 0.256          |
| Transitional B cells/PDL1 %                 | 0.201          | 0.221          |
| CD4/TCM/NONTFH/TH1-TH17/CD38+ HLADR- %      | -0.201         | -0.296         |
| CD8/TTM/CD38 MFI                            | -0.206         | -0.248         |
| CD4/TCM/NONTFH/TH17/CD38 %                  | -0.207         | -0.245         |
| CD8/TCM/CD38+ HLADR+ %                      | -0.209         | -0.212         |
| B/Double Neg/IL-21R+ %                      | -0.21          | -0.207         |
| CD4/TEFF/CD38 %                             | -0.217         | -0.282         |
| CD4/TCM/NONTFH/TH17/CD38+ HLADR- %          | -0.229         | -0.381         |
| CD4/TN/ICOS %                               | -0.237         | -0.24          |
| CD8/TEFF/CD38+ HLADR- % | -0.238 | -0.313 |
|--------------------------|--------|--------|
| pTFH/TH1-TH17/ICOS %    | -0.242 | -0.291 |
| CD4/TCM/NONTFH/TH17/ICOS % | -0.243 | -0.243 |
| CD4/TCM/ICOS %          | -0.248 | -0.217 |
| CD4/TCM/NONTFH/TH17/CD38 MFI | -0.255 | -0.257 |
| CD8/TEM/CD38+ HLADR- % | -0.255 | -0.339 |
| CD4/TCM/NONTFH/ICOS %  | -0.256 | -0.204 |
| pTFH/TH1/CD38+ HLADR- % | -0.257 | -0.26  |
| CD4/TEM/ICOS %          | -0.263 | -0.313 |
| CD4/TEM/CD38+ HLADR- % | -0.269 | -0.294 |
| CD4/TEFF/CD38+ HLADR- % | -0.273 | -0.351 |
| CD4/TCM/NONTFH/TH1/CD38 MFI | -0.292 | -0.262 |
| CD4/TCM/NONTFH/TH1/CD38 % | -0.293 | -0.221 |
| CD4/TCM/NONTFH/TH1/CD38+ HLADR- % | -0.296 | -0.292 |
| pTFH/TH2/ICOS %         | -0.298 | -0.275 |
| CD4/TCM/NONTFH/TH2/CD38+ HLADR- % | -0.304 | -0.347 |
| CD8/TN/CD38 %           | -0.308 | -0.28  |
| CD4/TN                  | -0.31  | -0.341 |
| pTFH/ICOS %             | -0.312 | -0.244 |
| CD8/TEM/CD38 MFI        | -0.313 | -0.225 |
| CD4/TN/CD38+ HLADR- %  | -0.317 | -0.247 |
| CD4/TCM/NONTFH/TH2/CD38 % | -0.317 | -0.29  |
| CD4/TN/CD38 MFI         | -0.318 | -0.21  |
| CD8/TCM/KI67            | -0.34  | -0.253 |
| pTFH/TH17/ICOS %        | -0.34  | -0.336 |
| CD4/TCM/NONTFH/TH2/CD38 MFI | -0.343 | -0.29  |
| pTFH/TH17/CD38 %        | -0.347 | -0.244 |
| CD8/TEM/CD38 %          | -0.35  | -0.214 |
| CD4/TCM/NONTFH/CD38+ HLADR- % | -0.351 | -0.324 |
| CD8/TN/CD38+ HLADR- %  | -0.365 | -0.38  |
| pTFH/TH1-TH17/CD38+ HLADR- % | -0.367 | -0.216 |
| pTFH/TH17/CD38+ HLADR- % | -0.371 | -0.328 |
| CD4/TCM/NONTFH/CD38 %  | -0.376 | -0.234 |
| CD8/TN/CD38 MFI         | -0.38  | -0.357 |
| CD4/CD38+ HLADR- %     | -0.386 | -0.394 |
| CD4/TCM/NONTFH/CD38 MFI | -0.388 | -0.229 |
| CD4/CD38 %              | -0.396 | -0.335 |
| pTFH/CD38+ HLADR- %    | -0.398 | -0.294 |
| pTFH/TH2/CD38+ HLADR- % | -0.402 | -0.287 |
| CD8/CD38 %              | -0.402 | -0.305 |
| CD4/TCM/CD38+ HLADR- % | -0.419 | -0.342 |
| CD4/CD38 MFI            | -0.422 | -0.354 |
| Parameter                                      | Correlation 1 | Correlation 2 |
|-----------------------------------------------|---------------|---------------|
| CD4/TCM/CD38 (%)                              | -0.424        | -0.216        |
| pTFH/TH17/CD38 MFI                           | -0.428        | -0.273        |
| pTFH/TH2/CD38 MFI                            | -0.431        | -0.235        |
| CD4/TTM/CD38+ HLADR- %                       | -0.443        | -0.337        |
| pTFH/CD38 MFI                                | -0.453        | -0.214        |
| CD8/CD38 MFI                                 | -0.464        | -0.361        |
| CD4/TCM/CD38 MFI                             | -0.465        | -0.232        |
| CD8/CD38+ HLADR- %                           | -0.469        | -0.447        |
| CD8/TCM/CD38 %                               | -0.537        | -0.353        |
| CD8/TCM/CD38+ HLADR- %                       | -0.555        | -0.4          |
| CD8/TCM/CD38 MFI                             | -0.559        | -0.383        |