Supplementary Table 2: Antibodies used for immune-phenotyping (CyTOF analysis)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Antibody** | **Clone** |  | **Antibody** | **Clone** |
| 1 | CD45 | HI30 | 27 | CD3 | UCHT1 |
| 2 | CD8 | \*RPA-T8 | 28 | CXCR5 | RF8B2 |
| 3 | CD11b | \*ICRF44 | 29 | IgM | MHM-88 |
| 4 | CD33 | \*WM53 | 30 | CD20 | \*2H7 |
| 5 | CD66b | \*6/40c | 31 | CD25 | \*M-A251 |
| 6 | CD40 | 5C3 | 32 | CD38 | \*HIT2 |
| 7 | HLADR | L243 | 33 | CD56 | HCD56 |
| 8 | CD69 | FN50 | 34 | CD16 | 3G8 |
| 9 | CD4 | RPA-T4 | 35 | #GZN | \*\*GB11 |
| 10 | IgD | IA62 | 36 | #Tcf1 | \*7F11A10 |
| 11 | CD14 | RMO52 | 37 | #Tbet | 4B10 |
| 12 | CD127 | A019D5 | 38 | #Foxp3 | PCH101 |
| 13 | Anti-Biotin | 1D4-C5 | 39 | #Bcl6 | K112-91 |
| 14 | ICOS | C398.4A | 40 | #GATA3 | TWAJ |
| 15 | CD21 | BL13 | 41 | #Ki67 | B56 |
| 16 | CD45RA | HI100 |  |  |  |
| 17 | TIGIT | MBSA43 |  |  |  |
| 18 | CD27 | L128 |  |  |  |
| 19 | IgG | \*M1310G05 |  |  |  |
| 20 | CD11c | \*Bu15 |  |  |  |
| 21 | CCR7 | G043H7 |  |  |  |
| 22 | CD28 | CD23.2 |  |  |  |
| 23 | CD45RO | UCHL1 |  |  |  |
| 24 | PD-1 | EH12.2H7 |  |  |  |
| 25 | NKG2D | ON72 |  |  |  |
| 26 | CD19 | HIB19 |  |  |  |

All metal conjugated antibodies purchased from Fluidigm

Purified antibodies purchased from \*Biolegend and \*\* Invitrogen were metal tagged using Fluidigm metal conjugation kit following manufacturers methods.

#Intracellular markers

Supplementary Table 3: Antibodies used for flow cytometry

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Antibody** | | **Clone** |
| 1 | IgD | | IA6-2 |
| 2 | IgG | | M1310G05 |
| 3 | CD19 | | HIB19 |
| 4 | CD27 | | O323 |
| 5 | \*CD38 | | AT-1 |
| 6 | anti-Biotin | | 1D4-C5 |
| 7 | CD21 | | Bu34 |
| 8 | IgM | | MHM-88 |
| 9 | CD20 | | S18015E |
| 10 | Live/Dead | |  |
| 12 | RBD | Biotinylated Recombinant SARS-CoV-2 S Protein RBD (200 µg/mL) Biolegend | |

Fluorescently labeled antibodies purchased from Biolegend

\*Fluorescently labeled antibody purchased from StemCell Technologies

Supplementary Table 4: Antibodies used for AIM Assay (CyTOF analysis)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Antibody** | **Clone** |  | **Antibody** | **Clone** |
| 1 | CD45 | HI30 | 27 | #GZN | \*\*GB11 |
| 2 | CD8 | \*RPA-T8 | 28 | #Tcf1 | \*7F11A10 |
| 3 | OX40 | ACT35 | 29 | #Tbet | 4B10 |
| 4 | HLADR | L243 | 30 | #Foxp3 | PCH101 |
| 5 | CD69 | FN50 | 31 | #Bcl6 | K112-91 |
| 6 | CD4 | RPA-T4 | 32 | #GATA3 | TWAJ |
| 7 | CD14 | RMO52 | 33 | #Ki67 | B56 |
| 8 | CD127 | A019D5 |  |  |  |
| 9 | ICOS | C398.4A |  |  |  |
| 10 | CD45RA | HI100 |  |  |  |
| 11 | TIGIT | MBSA43 |  |  |  |
| 12 | CD27 | L128 |  |  |  |
| 13 | CD11c | \*Bu15 |  |  |  |
| 14 | CCR7 | G043H7 |  |  |  |
| 15 | CD28 | CD23.2 |  |  |  |
| 16 | CD45RO | UCHL1 |  |  |  |
| 17 | PD-1 | EH12.2H7 |  |  |  |
| 18 | NKG2D | ON72 |  |  |  |
| 19 | CD19 | HIB19 |  |  |  |
| 20 | CD3 | UCHT1 |  |  |  |
| 21 | CXCR5 | RF8B2 |  |  |  |
| 22 | CD20 | \*2H7 |  |  |  |
| 23 | CD25 | \*M-A251 |  |  |  |
| 24 | CD38 | \*HIT2 |  |  |  |
| 25 | CD56 | HCD56 |  |  |  |
| 26 | CD137 | 4B4-1 |  |  |  |

All metal conjugated antibodies were purchased from Fluidigm

Purified antibodies purchased from \*Biolegend and \*\* Invitrogen were metal tagged using Fluidigm metal conjugation kit following manufacturers methods.

#Intracellular markers