**Supplementary Table 1. Antibodies information**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Target Antigen** | **Conjugation** | **Clone** | **vendor** | **Catalog #** | **Dilution** |
| Bcl-6 | Alexa Fluor 647 | K112-91 | BD Biosciences | 561525 | 1:100 |
| CD4 | Alexa Fluor 700 | GK1.5 | Thermo Fisher | 56-0041 | 1:100 |
| APC | RM4-5 | BioLegend | 100516 | 1:100 |
| eFlour 450 | GK1.5 | Thermo Fisher | 48-0041 | 1:100 |
| FITC | RM4-5 | BD Biosciences | 553047 | 1:100 |
| BV711 | GK1.5 | Thermo Fisher | 56-0041 | 1:100 |
| CD16/CD32 | Purified | 2.4G2 | BD Biosciences | 553140 | 1:500 |
| CD44 | PE | IM7 | BioLegend | 103008 | 1:100 |
| PE/Cy7 | IM7 | BioLegend | 103030 | 1:100 |
| V500 | IM7 | BD Biosciences | 560780 | 1:100 |
| CD48 | FITC | HM48-1 | Thermo Fisher | 11-0481 | 1:100 |
| CD62L | APC | MEL-14 | BD Biosciences | 553152 | 1:100 |
| CD84 | PE | mCD84.7 | BioLegend | 122805 | 1:100 |
| CD150 | PE/Cy7 | TC15-12F12.2 | BioLegend | 115913 | 1:100 |
| CD229 | PE | Ly9ab3 | BioLegend | 122905 | 1:100 |
| CD244.2 | PE/Cy7 | eBio244F4 | Thermo Fisher | 25-2441 | 1:100 |
| CD279 (PD-1) | eFlour 450 | RMP1-30 | Thermo Fisher | 48-9981 | 1:100 |
| PE/Cy7 | J43 | Thermo Fisher | 25-9985 | 1:100 |
| CD319 | APC | 4G2 | BioLegend | 152003 | 1:100 |
| CXCR5 | PE | 2G8 | BD Biosciences | 551959 | 1:100 |
| Purified | 2G8 | BD Biosciences | 551961 | 1:100 |
| Ly108 | PE | eBio13G3-19D | Thermo Fisher | 12-1508 | 1:100 |
| IFN-y | Pacific Blue | XMG1.2 | BioLegend | 505818 | 1:100 |
| p4E-BP1 | Alexa Fluor 647 | 236B4 | Cell Signaling | 5123S | 1:100 |
| pAKT | PE/Cy7 | SDRNR | Thermo Fisher | 25-9715 | 1:25 |
| pS6 | Pacific Blue | D57.2.2E | Cell Signaling | 8520S | 1:100 |
| Streptavidin | BV650 |  | BioLegend | 405231 | 1:100 |
| PerCP |  | BD Biosciences | 554064 | 1:100 |