

Supplementary Table 2 – Canonical marker genes used for cell clusters annotation

Population	Main markers	References
T-cell populations	CD3	Hetemäki et al. DOI: 10.1111/imm.13866 Olguín-Martínez et al. DOI: 10.3389/fimmu.2021.757967 Wex et al. DOI: 10.4049/jimmunol.167.4.2172
Cytotoxic innate like T-cells	CD7, Kit, CTSW <i>high</i> , IKZF2	Hetemäki et al. DOI: 10.1111/imm.13866 Olguín-Martínez et al. DOI: 10.3389/fimmu.2021.757967 Wex et al. DOI: 10.4049/jimmunol.167.4.2172
Quiescent innate like T-cells	CD7 <i>low</i> , Kit, CTSW <i>low</i> , IKZF2	Hetemäki et al. DOI: 10.1111/imm.13866 Olguín-Martínez et al. DOI: 10.3389/fimmu.2021.757967 Wex et al. DOI: 10.4049/jimmunol.167.4.2172
FoxP3 ⁺ CD4 ⁺	CD4, FoxP3, CTLA4, TNFRSF4	Hassan et al. DOI: 10.1038/s41467-025-60617-4
γδ T-cells	WC1, IL1R1	Guzman et al. DOI: 10.4049/jimmunol.1303398
CD4 ⁺ TRM	CD4, CD69, ITGA1	Kuman et al. DOI: 10.1016/j.celrep.2017.08.078
Effector memory CTL	CD8, GZMK, PRF1, CD69	Jonsson et al. DOI: 10.1126/scitranslmed.abo0686
CD8 ⁺ MAIT	CD8, ZBTB16, KLRB1, NCR3, NCR1, RORC	Walker et al. DOI: 10.1182/blood-2011-05-353789 Zhang et al. DOI: 10.1038/srep12113
Double negative MAIT	ZBTB16, KLRB1, NCR3, NCR1, RORC	Walker et al. DOI: 10.1182/blood-2011-05-353789 Hassan et al. DOI: 10.1038/s41467-025-60617-4
NK cells	NKG2A, KLRI1, KLRB1, NCR1	Del Zotto et al. DOI: 10.1002/cyto.b.21508 Saether et al. DOI: 10.1007/s00251-004-0759-x Rebuffet et al. DOI: 10.1038/s41590-024-01883-0
B-cells	MS4A1, JCHAIN <i>low</i> , CD19, IRF4	Liu et al. DOI: 10.1038/s42003-020-0964-7
Plasma cells	MS4A1, JCHAIN <i>high</i> , CD19	Liu et al. DOI: 10.1038/s42003-020-0964-7
Mixed B and T-cell populations	CD3, CD19	Uxa et al. DOI: 10.1038/s41418-021-00823-x Uusküla-Reimand and Wilson. DOI : 10.1126/sciadv.add4920
Highly proliferative lymphocytes	MKI67, TOP2A	

Mast cells	CPA3, PBXL, TPSB2	Plum et al. DOI: 10.1016/j.immuni.2020.01.012
Plasmacytoid cells	CD4, BOLA-DRA, IL3RA, FLT3, IRF8, JCHAIN	Renosi et al. DOI: 10.1182/bloodadvances.2020003359
cDC2	BOLA-DRA, IRF4 <i>high</i> , FLT3, IRF8 <i>low</i>	Collin and Bigley. DOI: 10.1111/imm.12888
Macrophages	CD68, CD163, CD14, BOLA-DRA, FCGR1A	Wei et al. DOI: 10.3389/fimmu.2023.1084636
Macrophages CD276⁺	CD68, CD276	Wei et al. DOI: 10.3389/fimmu.2023.1084636
CD3⁺ CD14⁺ MHC-II⁺ cells	CD3, CD14, BOLA-DRA, CD68	Behan et al. DOI: