

SUPPLEMENTARY MATERIAL

Target	Synonym	Clone	Label	Reference	Company	Titration
CD45		HI30	89Y	MDIPA	Standard Biotools	n.a.
CD196	CCR6	G034E3	141Pr	MDIPA	Standard Biotools	n.a.
CD123		6H6	143Nd	MDIPA	Standard Biotools	n.a.
CD19		H1B19	144Nd	MDIPA	Standard Biotools	n.a.
CD4		RPA-T4	145Nd	MDIPA	Standard Biotools	n.a.
CD8a		RPA-T8	146Nd	MDIPA	Standard Biotools	n.a.
CD11c		Bu15	147Sm	MDIPA	Standard Biotools	n.a.
CD16		3G8	148Nd	MDIPA	Standard Biotools	n.a.
CD45RO		UCHL1	149Sm	MDIPA	Standard Biotools	n.a.
CD45RA		HI100	150Nd	MDIPA	Standard Biotools	n.a.
CD161		HP-3G10	151Eu	MDIPA	Standard Biotools	n.a.
CD194	CCR4	L291H4	152Sm	MDIPA	Standard Biotools	n.a.
CD25		BC96	153Eu	MDIPA	Standard Biotools	n.a.
CD27		O323	154Sm	MDIPA	Standard Biotools	n.a.
CD57		HNK-1	155Gd	MDIPA	Standard Biotools	n.a.
CD183	CXCR3	G025H7	156Gd	MDIPA	Standard Biotools	n.a.
CD185	CXCR5	J252D4	158Gd	MDIPA	Standard Biotools	n.a.
CD28		CD28.2	160Gd	MDIPA	Standard Biotools	n.a.
CD38		HB-7	161Dy	MDIPA	Standard Biotools	n.a.
CD56	NCAM	NCAM16.2	163Dy	MDIPA	Standard Biotools	n.a.
TCRgd		B1	164Dy	MDIPA	Standard Biotools	n.a.
CD294		BM16	166Er	MDIPA	Standard Biotools	n.a.
CD197	CCR7	G043H7	167Er	MDIPA	Standard Biotools	n.a.
CD14		63D3	168Er	MDIPA	Standard Biotools	n.a.
CD3		UCHT1	170Er	MDIPA	Standard Biotools	n.a.
CD20		2H7	171Yb	MDIPA	Standard Biotools	n.a.
CD66b		G10F5	172Yb	MDIPA	Standard Biotools	n.a.
HLA-DR		LN3	173Yb	MDIPA	Standard Biotools	n.a.
IgD		IA6-2	174Yb	MDIPA	Standard Biotools	n.a.
CD127		A019D5	176Yb	MDIPA	Standard Biotools	n.a.
CD117		104D2	142Nd	313223	Biolegend	1µL*
FcER1		AER-37 (CRA1)	159Tb	16-5899-82	ThermoFisher Scientific	1µL*
CD63		H5C6	175Lu	353039	Biolegend	1µL**
CD62P		AK4	165Ho	304947	Biolegend	1µL**
CD203c		NP4D6	169Tm	324602	Biolegend	1µL**
CD69		FN50	162Dy	3162001B	Standard Biotools	1µL**
CD11b		ICRF44	209Bi	3209003B	Standard Biotools	1µL**

Table S1 : Mass cytometry marker panel.

Maxpar© Direct™ Immune Profiling panel of 31 markers and 7 additional markers were used to identify 66 cell populations of single live CD45+ cells. Two additional markers were ready-to-use (*) and 5 additional markers were self-labeled (**).

Table S2: Median values and range (minimum to maximum values) expressed in $\mu\text{g}/\text{mL}$ for specific α -Gal IgG antibodies and subclasses.

		sIgG ($\mu\text{g}/\text{mL}$)		sIgG1 ($\mu\text{g}/\text{mL}$)		sIgG2 ($\mu\text{g}/\text{mL}$)		sIgG3 ($\mu\text{g}/\text{mL}$)		sIgG4 ($\mu\text{g}/\text{mL}$)	
		median	range	median	range	median	range	median	range	median	range
Controls	V0	27.8	10.8 - 90.1	19.9	6.0 - 29.6	19.8	12.3 - 60.3	0.01	0.01 - 1.98	0.01	0.01
	V1	19.7	9.2 - 36.0	14.2	0.01 - 23.7	16.6	10.4 - 28.8	0.07	0.01 - 1.03	0.01	0.01
	V2	18.8	11.9 - 29.1	14.9	6.6 - 22.5	17.4	12.3 - 25.9	0.06	0.01 - 0.82	0.01	0.01
	V3	21.7	11.3 - 28.2	14.6	6.8 - 25.9	17.6	15.2 - 31.8	0.07	0.01 - 0.98	0.01	0.01 - 0.99
	V4	14.9	12.6 - 34.6	6.6	4.6 - 23.6	13.4	10.7 - 28.0	0.02	0.01 - 0.09	0.01	0.01
Patients	V0	39.8	15.9 - 173.8	37.2	11.9 - 76.0	19.0	12.9 - 57.4	1.03	0.74 - 9.07	0.01	0.01 - 0.69
	V1	23.8	16.8 - 71.3	23.3	11.4 - 137.3	21.0	12.1 - 30.5	0.65	0.01 - 2.54	0.32	0.01 - 5.00
	V2	26.6	13.1 - 79.6	22.1	10.2 - 206.2	19.5	11.8 - 30.4	0.71	0.15 - 3.48	0.05	0.01 - 9.19
	V3	28.0	15.9 - 82.1	21.1	9.8 - 170.4	20.4	12.4 - 28.6	0.67	0.12 - 2.85	0.33	0.01 - 7.77
	V4	29.1	15.4 - 89.5	23.6	9.8 - 172.1	22.5	11.1 - 28.4	0.54	0.12 - 2.73	0.23	0.01 - 7.92

Median values and range (minimum to maximum values), expressed in $\mu\text{g}/\text{mL}$, for specific α -Gal IgG antibodies and subclasses in all controls and patients per time-point (as detailed in Figure S4). Lower limit of detection (LLOD) were 0.01 $\mu\text{g}/\text{mL}$ for sIgG, 0.1 $\mu\text{g}/\text{mL}$ for sIgG1, 0.1 $\mu\text{g}/\text{mL}$ for sIgG2, 0.01 $\mu\text{g}/\text{mL}$ for sIgG3, 0.02 $\mu\text{g}/\text{mL}$ for sIgG4. Measured concentrations below the LLOD were set to 0.01 $\mu\text{g}/\text{mL}$.