

## Supplemental Materials

Table 1: Complete list of flow cytometry antibodies

Target	Species	Clone	Fluorophore	Manufacturer
CD45	Human	HI10	AF488	Biolegend
CCR4	Human	L291H4	PE	Biolegend
CCR4	Human	L291H4	BV510	Biolegend
CD16	Human	3G8	AF647	Biolegend
CD8a	Human	SK1	PerCP-eFluor 710	Thermo Fisher
CD56	Human	CMSSB	PE-eFluor 610	Thermo Fisher
FOXP3	Human	236A/E7	PE-Cy7	Thermo Fisher
CCR8	Human	433H	BV421	BD Biosciences
CD15	Human	W6D3	BV510	BD Biosciences
CD4	Human	SK3	BV650	BD Biosciences
CD4	Human	SK3	BV605	BD Biosciences
CTLA4	Human	BNI3	BV421	BD Biosciences
HLA-DR	Human	G46-6	BUV395	BD Biosciences
PD-1	Human	EH12.1	BUV737	BD Biosciences
CD3	Human	UCHT1	BUV805	BD Biosciences
CD3	Human	UCHT1	APC	BD Biosciences
CD39	Human	A1	BV786	Biolegend
Granzyme B	Human	QA16A02	PE	Biolegend
IFN $\gamma$	Human	4S.B3	PE-eFluor 610	Thermo Fisher
IL-1R2	Human	MA5-23626	APC	Thermo Fisher
IL-2	Human	MQ1-17H12	BUV737	BD Biosciences
CD19	Human	SJ25C1	BV510	BD Biosciences
CD25	Human	2A3	APC-R700	BD Biosciences
CD3e	Mouse	145-2C11	BV421	Biolegend
CCR8	Mouse	SA214G2	AF647	Biolegend
CCR8	Mouse	SA214G2	PE	Biolegend
IFN $\gamma$	Mouse	XMG1.2	PE-Cy7	Biolegend
TNF $\alpha$	Mouse	MP6-XT22	APC	Biolegend
FOXP3	Mouse	FJK-16a	PE-eFluor 610	Thermo Fisher
CD8a	Mouse	53-6.7	BUV805	BD Biosciences
CD8b	Mouse	H35-17.2	BV650	BD Biosciences
CD4	Mouse	RM4-4	BV786	BD Biosciences
CD4	Mouse	RM4-5	BV786	BD Biosciences

CD45	Mouse	30-F11	BUV395	BD Biosciences
CD90.1	Mouse	OX-7	BB700	BD Biosciences
CD90.2	Mouse	30-H12	BV421	Biolegend
CD45.2	Mouse	104	APC	Biolegend
CD45.1	Mouse	A20	BUV395	BD Biosciences
Fixable Viability Stain 575V	NA	NA	NA	BD Biosciences

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*Human PBMC isolation.* Whole blood was collected in EDTA or sodium heparin tubes. Blood was diluted 1:1 with HBSS (Corning). Ficoll-Paque (GE Healthcare) was added to a SepMate tube (STEMCELL Technologies) for density gradient separation. Supernatant containing the separated PBMCs was collected and washed for assay use.

*Human spleen processing.* Donated human spleen (CHTN) from a 39 year old woman was shipped overnight on 4°C. The spleen was mashed through a metal mesh filter to generate single cell suspensions and cryopreserved.

*Anti-human antibody generation.* Mice were immunized with peptide representing amino acids 1-35 of human CCR8 conjugated to keyhole limpet hemocyanin (KLH) carrier protein, plasma membrane enriched fractions from human CCR8 overexpressing cells, or a combination of both. Hybridoma cells were created with spleen and lymph node suspensions with P3X63AgU.1 myeloma cells (ATCC CRL-1597) by electrofusion (BTX Hybrimune System). Supernatants from hybridomas were screened for CCR8 binding on cells. Hybridoma cells were plated in semi-solid media (Medium D, STEMCELL Technologies) and monoclonal colonies were picked using the ClonePix2 system (Molecular Devices). DNA sequences encoding for the antibody heavy and light chains were obtained via Sanger sequencing. Anti-human CCR4, a mogamulizumab biosimilar, was derived from publicly available DNA sequence.