

Appendix 1

Cohort A

A No	Age (Yrs)	Sex	Gp	Diagnosis	Donor	Stem cell source	Match	Conditioning	aGVHD	Grade	Timing
A7797	60	F	<i>T replete</i>	MDS	Haplo (sib)	PBSC	Haplo	FluCyTBI	Yes	Max Gd2 (Sk3)	D+36
A7812	55	F	<i>ATG</i>	MDS/MPD	UD	PBSC	12 of 12	Flu Bu3ATGMMF	No		
A7817	21	M	<i>A60</i>	AML	UD	PBSC	10/12 (C, DP)	TBICyA60	Yes	Max Gd1 (Sk1)	D+63
A1963	54	M	<i>T replete</i>	Myeloma	UD	PBSC	11/12 (DP)	FluTBI/MTXMMF	Yes	Max Gd2 (Sk3)	D+50
A7848	52	F	<i>A60</i>	MDS Int 1	UD	PBSC	10/12 (DP, DP)	FluBu3A60	Yes	Max Gd2 (Sk3)	D+30
A7837	56	M	<i>A30</i>	FL with HG trans	Sib (brother)	PBSC	Identical	FluMeIA30	No		
A7859	60	M	<i>A60</i>	MDS RCMD	UD	PBSC	11/12 (DP)	FluBu3A60	Yes	Max Gd1 (Sk1)	D+98
A7852	52	F	<i>A60</i>	AML	UD	PBSC	11/12 (DP)	FluBu3A60	Yes	Max Gd2 (Sk3)	D+28
A2307	48	M	<i>T replete</i>	HD	Haplo (sib)	PBSC	Haplo	FluCyTBI	Yes	Max Gd1 (Sk1)	D+88
A7111	47	F	<i>ATG</i>	CML	UD	PBSC	11/12 (DP)	Flu Bu3ATGMMF	Yes	Max Gd1 (Sk1)	D+47
A7869 (S)	65	F	<i>A60</i>	AML	UD	PBSC	11/12 (DP)	FluBu3A60	Yes	Max Gd2 (Sk3)	D+20
A7883	51	M	<i>T replete</i>	Myeloma	UD	PBSC	11/12 (DP)	FluTBI/MTXMMF	No		
A7891	65	F	<i>A30</i>	MDS RCMD	Sib (brother)	PBSC	Identical	FluMeIA30	Yes	Max Gd3 (Gut2, Sk2)	D+92
A7889	59	F	<i>A60</i>	MDS	UD	PBSC	11/12 (DP)	FluMeIA60	Yes	Max Gd2 (Sk3)	D+99
A7924	40	M	<i>A60</i>	AML	UD	PBSC	11/12 (DRB1)	FluMeIA60	No		
A7934	56	F	<i>A30</i>	AML	Sib (sister)	PBSC	Identical	FluMeIA30	No		
A7831	48	M	<i>T replete</i>	Myeloma	Sib (brother)	PBSC	Identical	FluTBI/MTXMMF	No		
A7991	35	M	<i>A30</i>	CLL	Sib (brother)	PBSC	Identical	FluMeIA30	No		
A7856	45	F	<i>ATG</i>	AML (extra med)	Sib (sister)	PBSC	Identical	FLAMSA/TBI/ATG/MMF	No		
A8003	54	M	<i>A30</i>	CLL	Sib (brother)	PBSC	Identical	FluMeIA30	Yes	Max Gd 1(Sk2)	D+92
A7855	62	F	<i>A30</i>	AML	Sib (sister)	PBSC	Identical	FluMeIA30	No		
A7559	50	M	<i>T replete</i>	Myeloma	UD	PBSC	10/12 (DP, DP)	FluTBI/MTXMMF	Yes	Max Gd 1(Sk2)	D+50
A8010	41	F	<i>ATG</i>	AML	Sib (sister)	PBSC	Identical	FLAMSA/TBI/ATG/MMF	No		
A8030	57	F	<i>ATG</i>	MF (PV)	Sib (brother)	PBSC	Identical	FluBuATG	No		
A8051	64	M	<i>ATG</i>	AML	UD	PBSC	11/12 (DP)	FLAMSA-BU/ATG	No		

Cohort B

A No	Age (Yrs)	Sex	Gp	Diagnosis	Donor	Stem cell source	Match	Conditioning	aGVHD	Grade	Timing
A8258	36	F	ATG	AML	UD	PBSC	12 out of 12	FLAMSA/Cy/TBI/ATG	Y	1 (S2)	D+50
A8265	57	M	Campath60	MDS	UD	PBSC	12 out of 12	FluMel A 60	N		
A8274	21	M	Campath30	Burkitt's	UD	PBSC	11 out of 12	LEAM A 30	Y	1 (S2)	D+86
A8281	51	F	Campath60	AML	UD	PBSC	11 out of 12	FluMel A 60	Y	1 (S1)	D+15
A8289	29	M	ATG	AML	UD	PBSC	10 out of 12 (DPx2)	FLAMSA/Cy/TBI/ATG	Y	1 (S1)	D+54
A8290	61	M	Campath60	MDS	UD	PBSC	12 out of 12	FluMel A 60	N		
A8307	18	M	T rep Haplo	AML	Haplo (mother)	PBSC	Haplo	Cy TBI	Y	2 (S3 Sk)	D48, 85
A8137	51	M	T rep (Seattle)	Myeloma	UD	PBSC	11 out of 12	Flu TBI MTX	N		
A8319	67	M	Campath60	MDS	UD	PBSC	11 out of 12	FluMel A 60	N		
A8317	65	F	Campath60	ALL	UD	PBSC	12 out of 12	FluMel A 60	N		
A7121	32	F	Campath60	CVID	UD	PBSC	11 out of 12	FluMel A 60	Y	1 (S2 Sk)	D+100
A8322	66	M	RIC Haplo	MDS	Haplo (daughter)	PBSC	Haplo	Flu Cy TBI	Y	2 (Sk1, G1)	D+40
A2777	54	M	RIC Haplo	AML	Haplo (son)	PBSC	7 out of 12	Flu Cy TBI	Y	1 (S1)	D+42
A8098	53	M	Campath60	AML	UD	PBSC	10 out of 12 (DPx2)	FluMel A 60	Y	1 (S2)	D+33
A7857	20	M	Campath60	HD	UD	PBSC	11 out of 12	FluMel A 60	N		
A8376	61	M	Campath60	AML	UD	PBSC	11 out of 12	FluMel A 60	Y	1 (S1)	D+93
A7771	19	F	RIC Haplo	DLBCL	Haplo (mother)	PBSC	7 out of 12	Flu Cy TBI	Y	1 (S2)	D+98
A8371	35	M	Campath30	T-ALL	UD	PBSC	11 out of 12	Cy TBI	Y	2 (Sk1, G1)	D+54
A8378	47	F	Campath30	Ph+ ALL	Sib	PBSC	12 out of 12	FluMel A 30	N		
A8380	20	M	Campath60	SAA	Sib	PBSC	12 out of 12	Flu Cy A 60	N		

Serum IL-22

A No	Age (Years)	Sex	Gp	Diagnosis	Donor	Stem cell source	Match	Conditioning
A8233	63	F	RIC	T-PLL	Haplo (niece)	PBSC	Haplo	Flu/Cy/TBI
A8262	24	M	RIC	CML	Sib (brother)	PBSC	Identical	Flu/Bu/ATG
A8265	57	M	RIC	MDS	UD (12/12)	PBSC	12 of 12	Flu/Mel/A60
A8274	21	M	RIC	Burkitt's	UD	PBSC	11 out of 12	LEAM A 30
A8281	51	F	RIC	AML	UD (11/12)	PBSC	11 out of 12	Flu/Mel/A60
A8307	18	M	MAC	AML	Haplo	PBSC	Haplo	Haplo FI
A7817	21	M	MAC	AML	MUD	PBSC	10/12 (C, DP)	Cy TBI A60
A7624	33	F	MAC	ALL	Sib	PBSC	Identical	Cy TBI
A7283	29	M	MAC	ALL	MUD	PBSC	10 out of 10	CyTBI A30

Appendix 2

D-PBS

Dulbecco's Phosphate Buffered Saline (D-PBS) (Sigma-Aldrich)

RPMI

RPMI-1640 Medium (Sigma-Aldrich)

Red Blood Cell Lysis Buffer

A 10x concentration stock of buffer was made, by dissolving 41.4g of NH₄Cl (Sigma-Aldrich) 5.0g KHCO₃ (Sigma-Aldrich) and 0.18g EDTA (Sigma-Aldrich) in 400ml sterile water (Sigma-Aldrich). This was pH adjusted to 7.35 by adding 0.1M NaOH (Sigma-Aldrich) and then made up to 500ml with sterile water (Sigma-Aldrich). The buffer was diluted to a concentration of 1x prior to use.

Flow Buffer

This was made by adding 2% heat inactivated Foetal Calf Serum (Lonza) and 0.4% EDTA (Sigma-Aldrich) to Dulbecco's Phosphate Buffered Saline (D-PBS).

Sort Buffer

This was made by adding 0.5% heat inactivated Foetal Calf Serum (Lonza) and 0.4% EDTA (Sigma-Aldrich) to Dulbecco's Phosphate Buffered Saline (D-PBS).

RF-10

This was made by adding 10% heat inactivated Foetal Calf Serum (Lonza), 1% penicillin and streptomycin and 2% L-glutamine (Lonza) to RPMI 1640 medium

MLR/Skin explant culture medium

This was made by adding 10% human AB serum (Sigma), 1% penicillin and streptomycin and 2% L-glutamine to RPMI 1640 medium.

Appendix 3

Panel ILCA

Tube	APC-Cy7	BV605	BV785	PE-CF594	PECy7	APC	FITC	BV421	PERCP Cy5.5	PE	DAPI
	4	4	3	4	4	5	4	5	4	5	
Lin-DR-	CD45	CD117	DR (Pos when activated)	CD294 CRTH2	CD161 (Pos)	Nkp44	Lin 3 14 16 19 20 34	CD127	CD56	CD52	DAPI

Antibody	Fluorochrome	Company	Clone	Isotype
CD3*	FITC	BD	SK7	IgG1
CD14*	FITC	BD	M5E2	IgG2a
CD16*	FITC	BD	LeuIIa	IgG1
CD19*	FITC	BD	4G7	IgG1
CD20*	FITC	BD	L27	IgG1
CD34*	FITC	BD	8G12	IgM
CD123*	FITC	Biologend	6H6	IgG1
CD45	APC-Cy7	BD	2D1	IgG1
CD52	PE	Biologend	H186	IgG2b
CD56	PERCP Cy5.5	Biologend	HcD56	IgG2a
CD117	BV605	BD	104D2	IgG1
CD127	BV421	Biologend	A019D5	IgG1
CD161	PECy7	eBioscience	HP-3G10	IgG1
CD294	PE-CF594	BD	BM16	IgG2a
HLA-DR	BV785	Biologend	L243	IgG2a
Nkp44	APC	Biologend	P44-8	IgG1

* Lineage markers (Lin)

Panel ILCB

	FITC	PE	PE-Cy7	APC	APC-Cy7	BV421	DAPI
Vol (ul)	4	4	4	4	4	5	
	Lin (14, 16, 19, 20, 34, 123)	CD3	CD4	CD8	CD45	CD127	

Antibody	Fluorochrome	Company	Clone	Isotype
CD14*	FITC	BD	M5E2	IgG2a
CD16*	FITC	BD	Leu11a	IgG1
CD19*	FITC	BD	4G7	IgG1
CD20*	FITC	BD	L27	IgG1
CD34*	FITC	BD	8G12	IgM
CD123*	FITC	Biolegend	6H6	IgG1
CD3	PE	BD	SK7	IgG1
CD4	PE-Cy7	Biolegend	OKT4	IgG2
CD8	APC	BD	SK1	IgG1
CD45	APC-Cy7	BD	2D1	IgG1
CD127	BV421	Biolegend	A019D5	IgG1

* Lineage markers (Lin)

Trucount Panel

	PECy7	FITC	PE	BV421	BV650	PE Dazz	PerCPy5.5	APCCy7	A700	APC	V500
Vol (ul)	3.5	3.5	5	3.5	3.5	6	5	3.5	1	4	5
	CD4	CD3	CD19, 20	CD127	CD14	CD16	CD8	CD34	CD45	CD56	DR

Antibody	Fluorochrome	Company	Clone	Isotype
CD4	PE-Cy7	Biolegend	OKT4	IgG2
CD3	FITC	BD	SK7	IgG1
CD19	PE	BD	HIB19	IgG1
CD20	PE	BD	L27	IgG1
CD127	BV421	Biolegend	A019D5	IgG1
CD14	BV650	Biolegend	M5E2	IgG2a
CD16	PE-Dazzle	Biolegend	3G8	IgG1
CD8	PerCP Cy5.5	Biolegend	HIT8a	IgG1
CD34	APCCy7	Biolegend	581	IgG1
CD45	AF700	Biolegend	HI30	IgG1
CD56	APC	BD	NCAM16	IgG2b
HLA-DR	V500	BD	G46-6	IgG2a

Intracellular staining panel

Tube	BV421	AF700	BV711	PERCP 5.5	FITC	PE Texas Red	V500	PE	APC Cy7	PE Cy7	APC
	CD127	CD3	CD4	CD8	14,16,19, 20,34,123	CD45	ZA	IL-22	IFN-G	IL-4	IL-17

3ul of each antibody used for master mix

Antibody	Fluorochrome	Company	Clone	Isotype
CD127	BV421	Biolegend	A019D5	IgG1
CD3	AF700	Biolegend	SK7	IgG1
CD4	BV711	Biolegend	OKT4	IgG2b
CD8	PerCP Cy5.5	Biolegend	HIT8a	IgG1
CD14*	FITC	BD	M5E2	IgG2a
CD16*	FITC	BD	LeuIIa	IgG1
CD19*	FITC	BD	4G7	IgG1
CD20*	FITC	BD	L27	IgG1
CD34*	FITC	BD	8G12	IgM
CD123*	FITC	Biolegend	6H6	IgG1
CD45	PE Texas Red	Biolegend	HI30	IgG1
ZA	V500	Biolegend		
IL-22	PE	R&D	142928	IgG1
IFN-G	APC-Cy7	Biolegend	4S.B3	IgG1
IL-4	PE Cy7	eBioscience	8D4-8	IgG1
IL-17A	APC	eBioscience	eBio64DCE17	IgG1

* Lineage markers (Lin)

Appendix 4

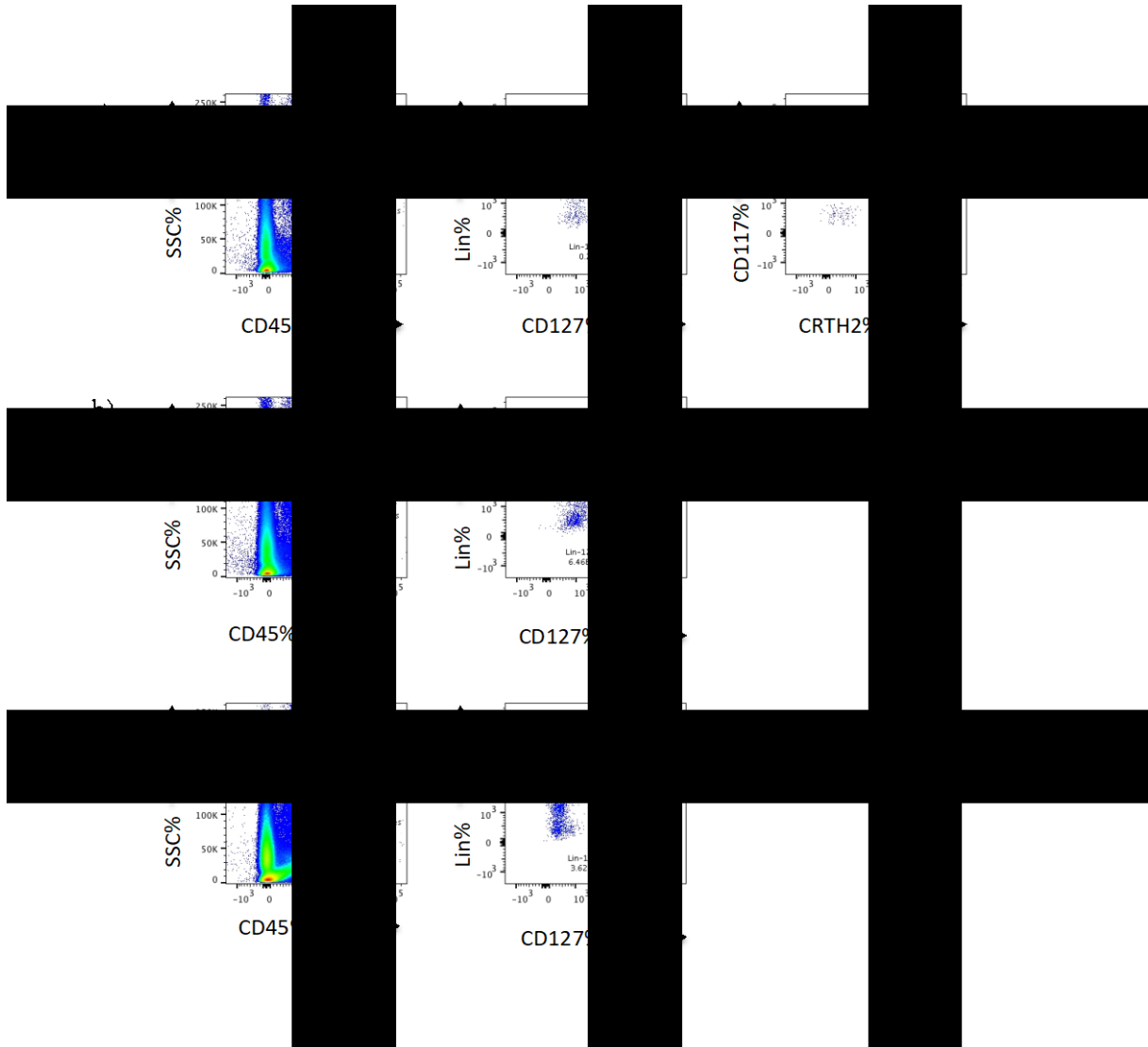


Figure 1. An example of test staining of mobilised peripheral blood stem cells, illustrating three methods of staining. a) fully stained, b) isotype control (CD127), c) fluorescence minus one (CD127)

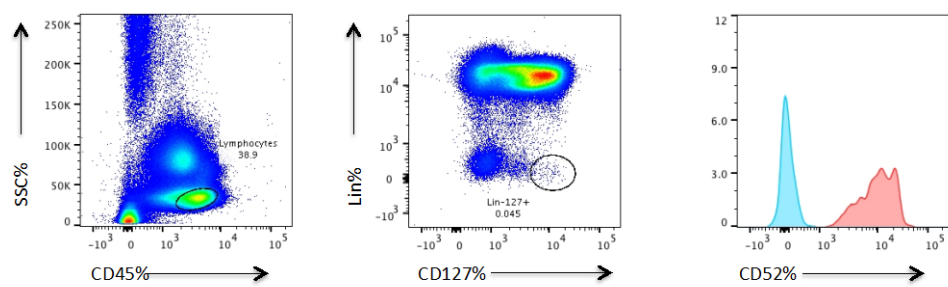


Figure 2. An example of isotype control staining for CD52 on patient ILCs (isotype control shown in blue)