

Supplementary Table1. Panel of markers of multiplex analysis.

Target in MM	Antigen	Dilution	Clone	Fluorochrome
Common Leukocyte Marker	CD45	50	CD45__5B1	APC
T Cells	CD3	50	CD3__REA1151	-
	CD4	50	CD4__REA1307	-
	CD8	50	CD8a__REA1024	-
	PD-1	25	CD279__REA1165	-
	HLA-DR	50	HLA_DR__REAL550	-
NK Cells	CD56	25	CD56__REAL1142	-
	CD16	25	CD16__REA1324	-
	CD57	50	CD57__TB03	FITC
	CD244	50	CD244__REAL1225	PE
	CD158i	11	CD158i__JJC11_6	APC
Macrophages	CD68	50	CD68__REA1306	PE
	CD11b	50	CD11b__REA1321	PE
	PDL-1 (CD274)	25	CD274__REA1308	-
	CD163	50	CD163__REA1309	-
B-cell Pro-survival/ Activation Factors	CD147	50	CD147__REA282	-
	BCL-2	50	Bcl_2__REA872	FITC
	PAX5	50	PAX_5__REA140	PE
	Syk	50	Syk__REA111	FITC
	CD223	50	CD223__REA351	APC
	CD79a	50	CD79a__REA1142	PE
	BATF	50	BATF__REA486	FITC
	BCL10	50	Bcl_10__REA1140	APC
	CD23	50	CD23__REAL1096	PE
	CD10	50	CD10__REAL762	APC
Progenitors/Myeloma Antigens	CD138	25	CD138__REA929	-
	CD38	25	CD38__REAL719	-
	B2M	-	beta2_Microglobulin__REAL8	PE
	CD56	25	45	-
	CD200	10	CD56__REAL1142	-
	CD117 (c-Kit)	50	CD200__REA1067	APC
	CD34	50	CD117__REA787 CD34__REAL1217	PE
Plasma Cell CAMs	CD20	25	CD20__REAL1069	-
	H-CAM (CD44)	50	CD44__DB105	-
	E-Cadherin	50	CD324__REA1319	-
	PSGL-1	50	CLA__REA1101	-
	EZH2	50	EZH2__REA907	APC
	Plasma cell (p63)	50	Plasma_Cell__REA908	APC
	BCMA	25	BCMA/TNFRSF17	-
	GPRC5D	25	GPRC5D_6D9	-

Ectopic Surface Markers	Podoplanin	50	Podoplanin__REA446	-
	Vimentin	50	Vimentin__REA409	-
	Actin	100	Actin__REAL650	-
	CD90	50	CD90__REAL677	PE
	CD73 (NT5E)	50	CD73__REAL1172	FITC
	CD31	50	CD31__REA1312	PE
	HLA-ABC	50	HLA_ABC__REAL597	APC
	Ki67	50	Ki_67__REA1123	FITC
	CD104	50	CD104__REA236	FITC
	Arginase	50	Arginase_1__REAL1137	APC
	CD45RA	50	CD45RA__REA562	FITC
	CD45RO	50	CD45RO__REA611	PE
	CD235a	50	CD235a__REA1092	PE
	CD271	25	CD271__REAL709	APC
	Cleaved PARP1	50	Cleaved_PARP1__REA1316	PE
	ZAP70	50	ZAP70__REA814	APC