

Table S1: Fluorochrome-antibody conjugates.

Antigen	Fluorophore	Clone	Corporation
CD3	AF700	OKT3	Invitrogen
CD4	SB600	SK3 (SK-3)	Invitrogen
CD8	APC-eF780	RPA-T8	Invitrogen
PD-1	PE-eF610	eBioJ105 (J105)	Invitrogen
TIGIT	PerCP-eF710	MBSA43	Invitrogen
TIM-3	PE	F38-2E2	Invitrogen
LAG-3	SB436	3DS223H	Invitrogen
CTLA-4	PE-cy7	14D3	Invitrogen
OX40	APC	ACT35 (ACT-35)	Invitrogen
4-1BB	FITC	4B4 (4B4-1)	Invitrogen
Live/Dead	aqua		Invitrogen

Figure S1: Immunophenotyping Gating Strategy

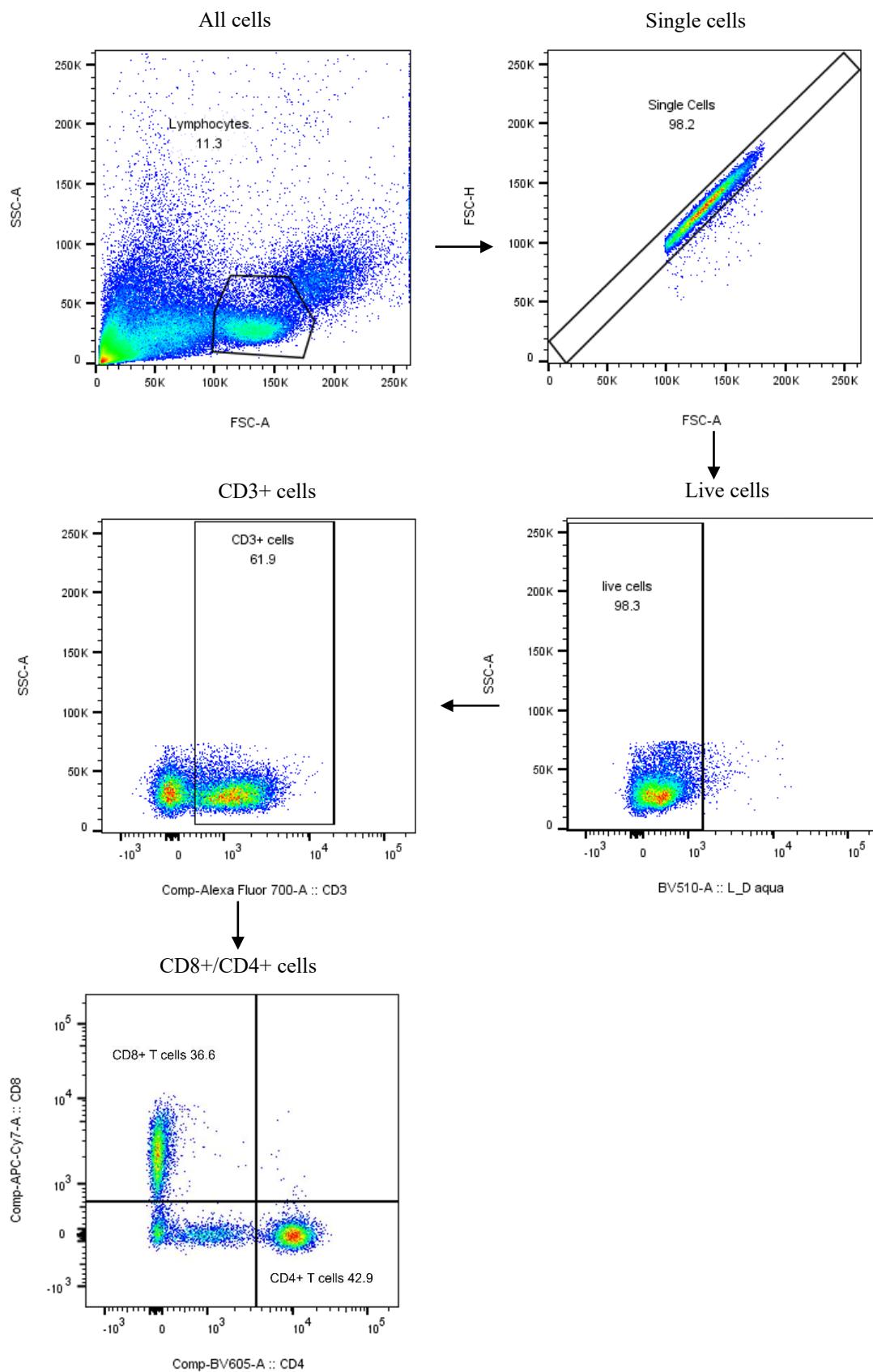


Figure S2. CD4+ T cell panel gating strategy.

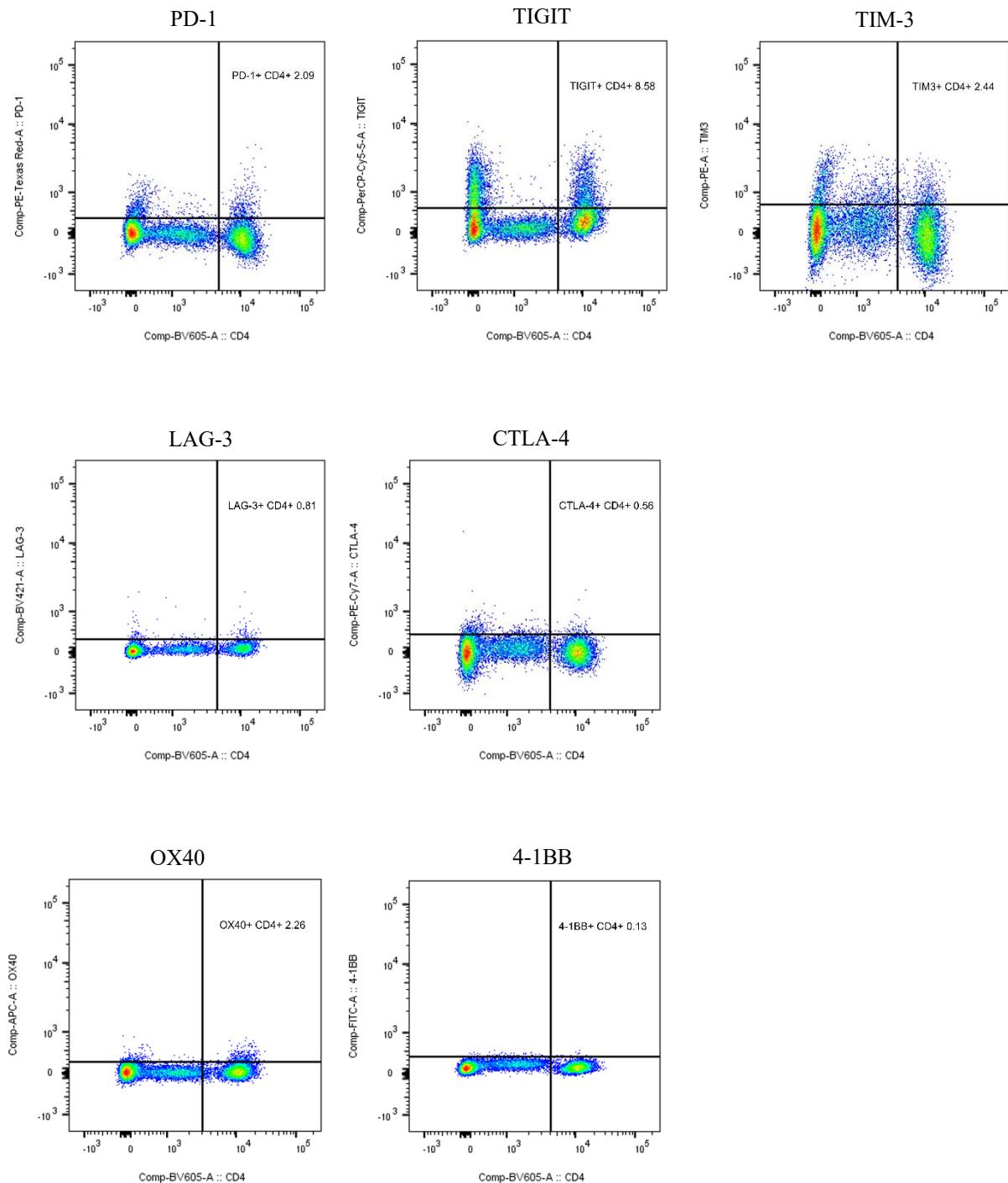


Figure S3. CD8+ T cell panel gating strategy.

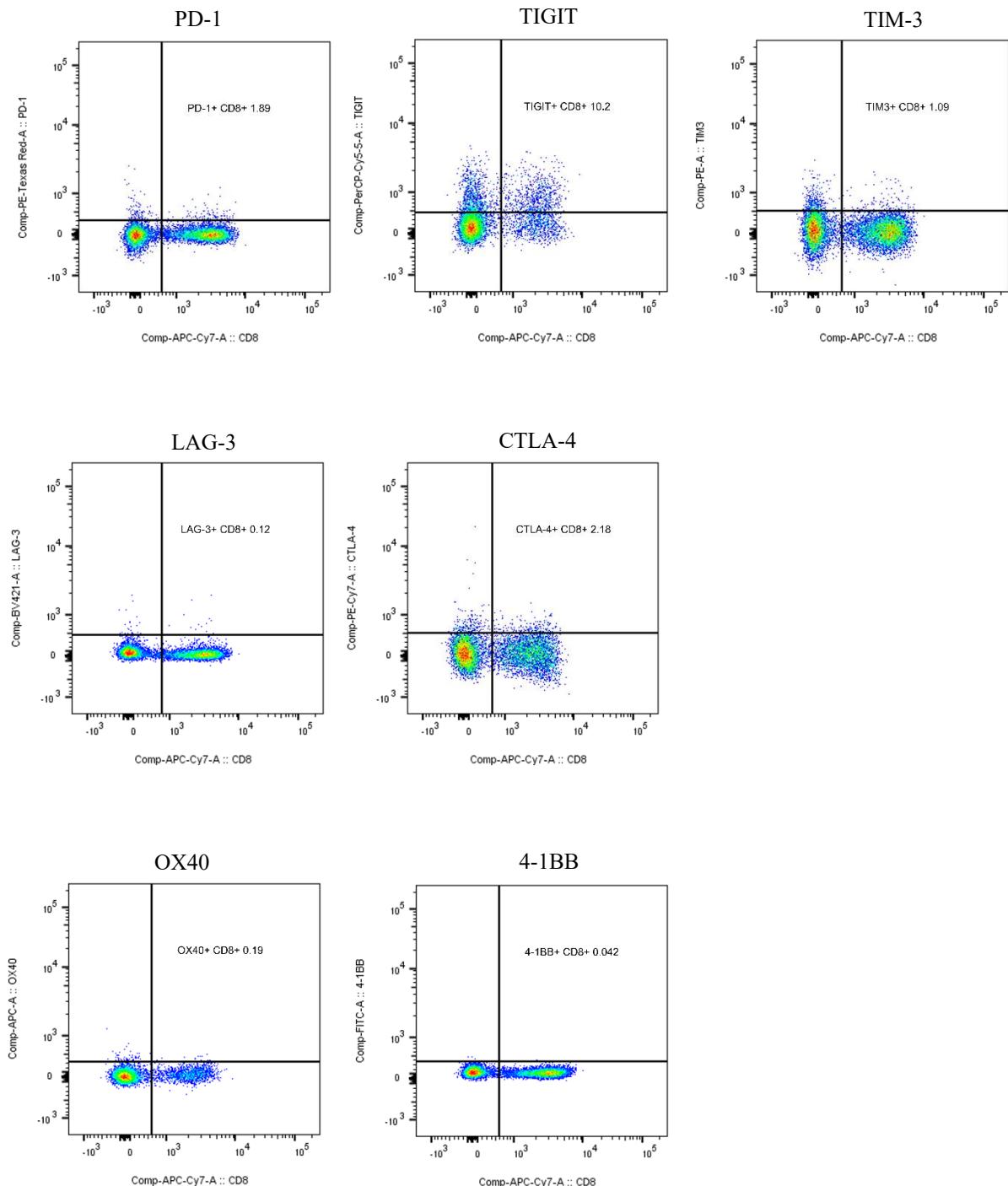
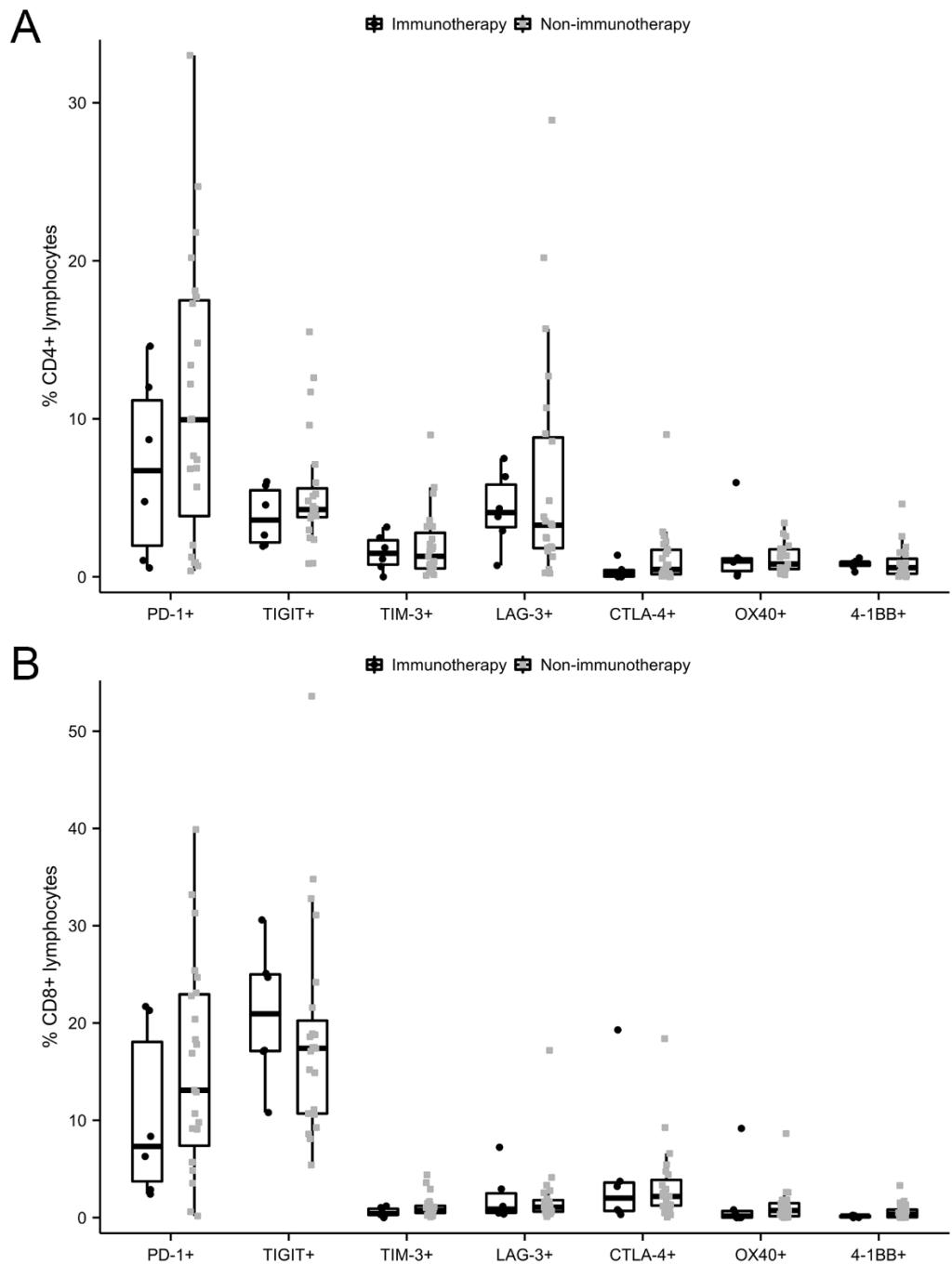


Figure S4. Differential frequencies of immune checkpoints in immunotherapy and non-immunotherapy group.



A. The frequency of each immune checkpoint on CD4+ T cells between immunotherapy and non-immunotherapy MM patients. **B.** The frequency of each immune checkpoint on CD8+ T cells between immunotherapy and non-immunotherapy MM patients.