

Supplemental table 1: IHC and MFC antibodies

IHC

Antibody	Clone	Primary Antibody Concentration (ug/mL)	Primary Antibody incubation (min)	Antigen Retrieval	Detection Method	Amplification	Antibody Supplier	Reference
CD3	LN10	12.4		30 Citrate buffer pH6 20min at 100C	Automated	Bond Polymer Refine Kit	Leica Biosystems Inc., Buffalo Grove, IL	
CD8	4B11	19.2		15 EDTA buffer pH9 20min at 100C	Automated	Bond Polymer Refine Kit	Leica Biosystems Inc., Buffalo Grove, IL	
Foxp3	236A/E7	10		60 EDTA buffer pH9 40min at 100C	Automated	Bond Polymer Refine Kit	Abcam plc., Cambridge, MA	PMID: 30902819
CD163	EDHu-1	2.5		30 Citrate buffer pH6 20min at 100C	Automated	Bond Polymer Refine Kit	Agilent Technologies Inc., Santa Clara, CA	
PD-1	NAT105		1 Overnight at 4C	Citrate buffer pH6 10min at 120C	Manual	TSA amplification	Abcam plc., Cambridge, MA	PMID: 28344809
PD-L1	SP263*		1.6 Overnight at 4C	Citrate buffer pH6 10min at 120C	Manual	TSA amplification	Ventana, Tucson, AZ	PMID: 28428193
CSF1R	FER216		1	60 EDTA buffer pH9 20min at 100C	Automated	Bond Polymer Refine Kit	Millipore Sigma, St. Louis, MO	
TIM-3	F-38-2E2		5 Overnight at 4C	Citrate buffer pH6 10min at 120C	Manual	TSA amplification	eBioscience Inc., San Diego, CA	PMID: 29296775
LAG-3	17B4		0.1 Overnight at 4C	Citrate buffer pH6 10min at 120C	Manual	TSA amplification	LifeSan BioSciences Inc., Seattle WA	PMID: 28334399
IDO1	SP260		1.19	15 EDTA buffer pH9 20min at 100C	Automated	Bond Polymer Refine Kit	Abcam plc., Cambridge, MA	PMID: 30902819

*The FDA-approved SP142 clone resulted in significant background overstaining in our samples

MFC

Antibody	Clone	Antibody supplier
CD45	2D1	BD Biosciences, San Jose, CA
CD3	SK7	BD Biosciences, San Jose, CA
CD4	RPA-T4	BD Biosciences, San Jose, CA
CD8	SK1	BD Biosciences, San Jose, CA
PD-1	EH12.1	BD Biosciences, San Jose, CA
TIM-3	344823	Bio-Techne, Minneapolis, MN
LAG-3	polyclonal goat IgG	Bio-Techne, Minneapolis, MN
EOMES	644730	Bio-Techne, Minneapolis, MN
Foxp3	PCH101	eBioscience Inc., San Diego, CA
T-bet	O4-46	BD Biosciences, San Jose, CA
IFN γ	B27	BD Biosciences, San Jose, CA