

In vitro Immunology Assay Platform



WuXi AppTec, WuXi Biology, Oncology & Immunology Unit



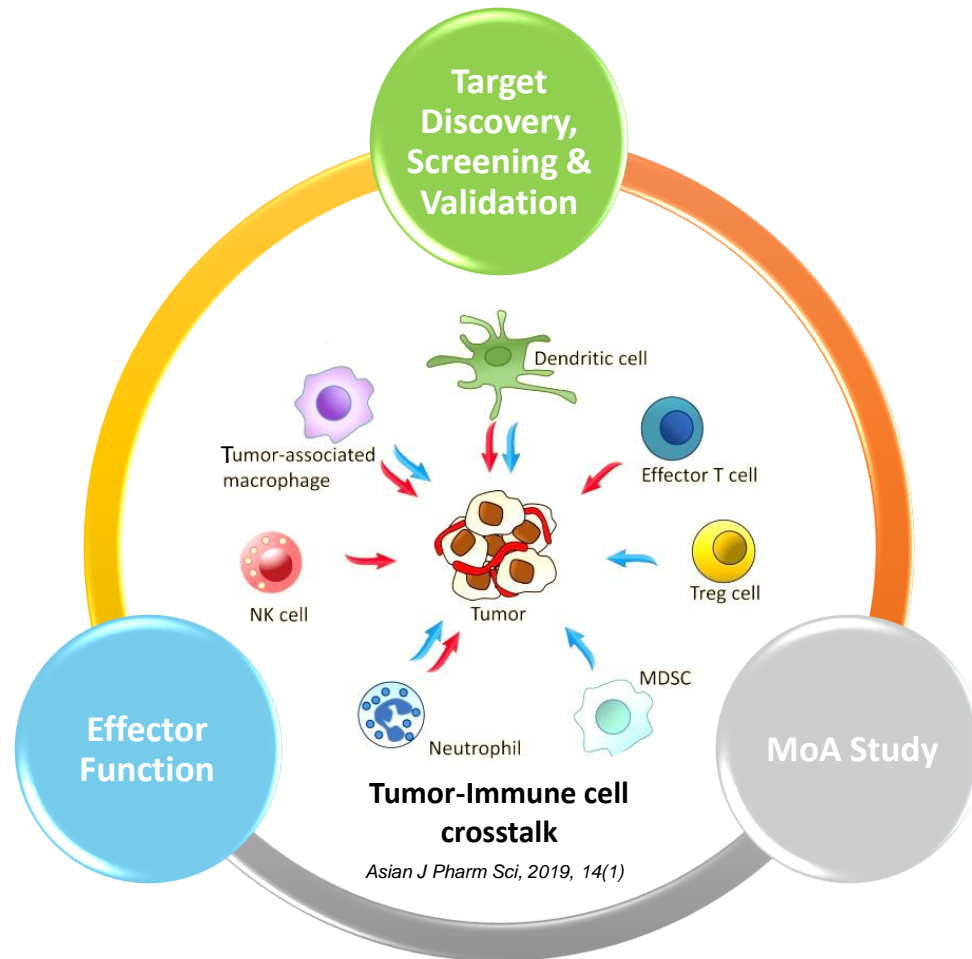
2023.06

OncoWuXi Newsletter

Outline

- Overview of *in vitro* immunology assay platform
- Detailed service list of *in vitro* immunology assays
- Case study-Ligand & Receptor binding
- Case study-Immune cell function

Overview of *in vitro* immunology assay platform



Ligand & Receptor binding

- **Protein level:** HTRF, ELISA, AlphaLISA, SPR
- **Cell level:** FACS

Immune Cell Function

• Innate Immune Cell Assays

Macrophage: ADCP assay, differentiation M1/M2 polarization, M2 suppressive, etc.

NK Cell: Activation/Cytotoxicity Assay, ADCC, CDC, etc.

MDSC: MDSC suppressive assay

Mast Cell: Mast Cell Degranulation Assay

DC: Mixed Lymphocyte Reaction: DC co-culture with T, etc.

• Adaptive Immune Cell Assays

T cell: Differentiation, Treg suppressive assay, T cell exhaustion, etc.

B cell: B Cell Activation

Other related assays: Cytokine-induced STATs Phosphorylation, PBMC-derived cytokine release assay

For more detailed information regarding the above assays, please contact us !

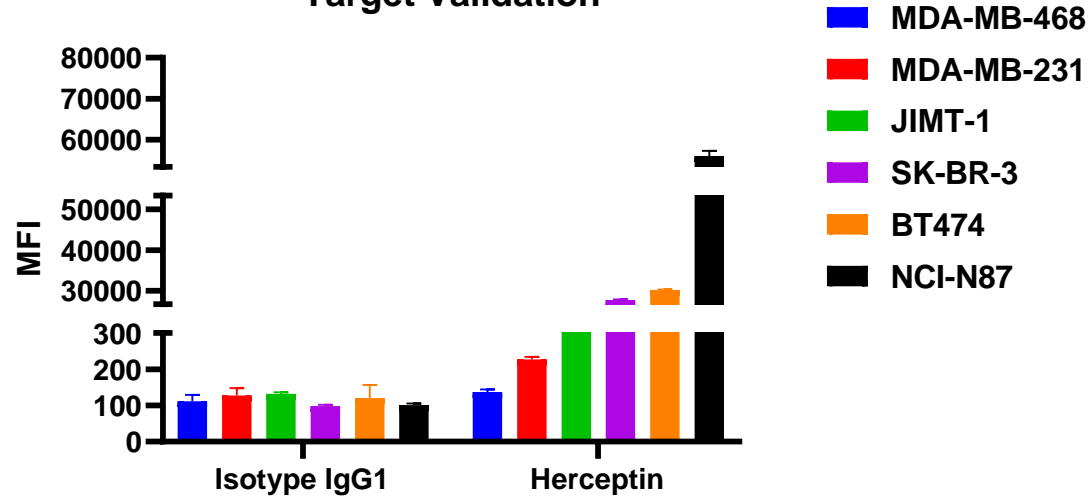
Detailed service list of *in vitro* immunology assays

Item		Assay		WuXi capability (Human/Mouse/Cyno)
Target Validation		Molecular Biology	Ligand/Receptor Binding: FACS, HTRF, ELISA, AlphaLISA, SPR, etc	Yes (H/M/Cyno)
Function and Mechanism Exploration	Innate Immune Cell	Macrophage	M1/M2 macrophage differentiation and polarization	Yes (H/M)
			Phagocytosis assay	Yes (H/M)
			Antibody Dependent Cellular Phagocytosis (ADCP)	Yes (H/M)
			M2 suppressive assay	Yes (H/M)
			TLR based macrophage inflammatory responses	Yes (H/M)
			NLRP3, AIM2 and NLRC4 inflammasome activation assay	Yes (H/M/Cyno)
			STING activation assay	Yes (H)
		DC	DC differentiation and activation assay	Yes (H/M)
			Mixed Lymphocyte Reaction (MLR)	Yes (H/M)
		NK Cell	NK activation and cytotoxicity assay	Yes (H)
			Antibody Dependent Cellular Cytotoxicity (ADCC)	Yes (H)
		MDSC	MDSC differentiation and suppressive assay	Yes (H)
	Mast Cell	Mast cell degranulation assay	Yes (M)	
	CD34 stem cell	CD34 ⁺ cell differentiation: macrophage, red cell, mast cell, neutrophil, etc	Yes (H)	
	Adaptive Immune Cell	T Cell	T cell activation (Antibody/SEB/CMV Recall)	Yes (H/M/Cyno)
			Cytotoxicity assay (BiTE, OT-I mouse)	Yes (H/M)
			T cell exhaustion assay	Yes (H)
			CD4 T cell differentiation: Th1, Th2, Th17, Treg	Yes (H/M)
Treg suppressive assay			Yes (H)	
B Cell		B cell activation	Yes (H/M)	
Others		Complement Dependent Cytotoxicity (CDC)	Yes (H)	
	JAK-STAT signaling pathway: protein phosphorylation and cytokine release	Yes (H)		

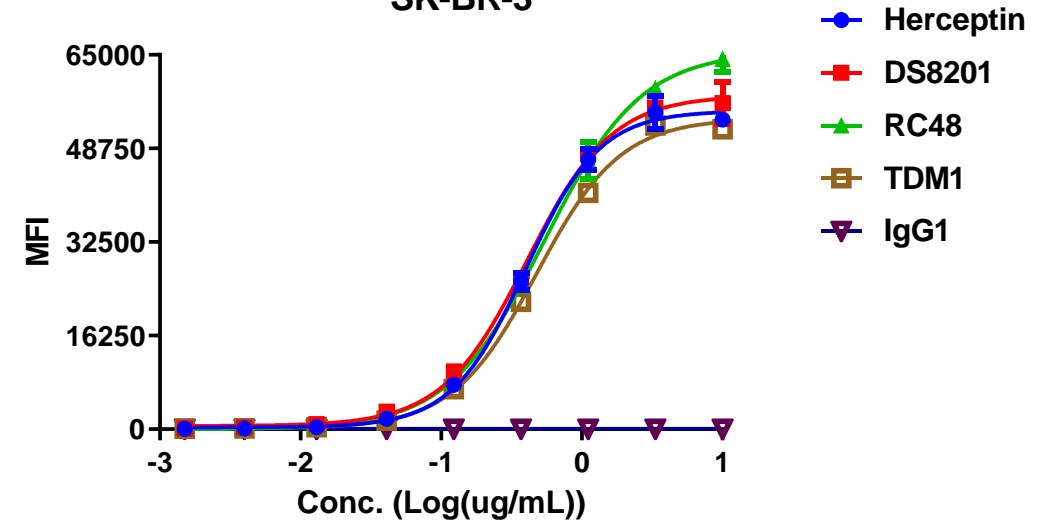
Case study-ligand & receptor binding

Protein & Cell level

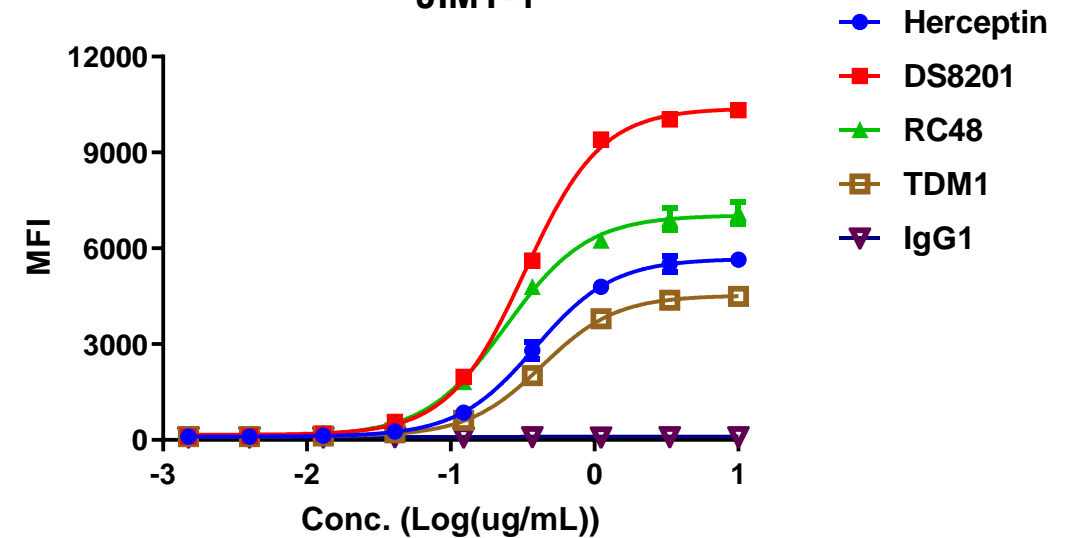
Target Validation



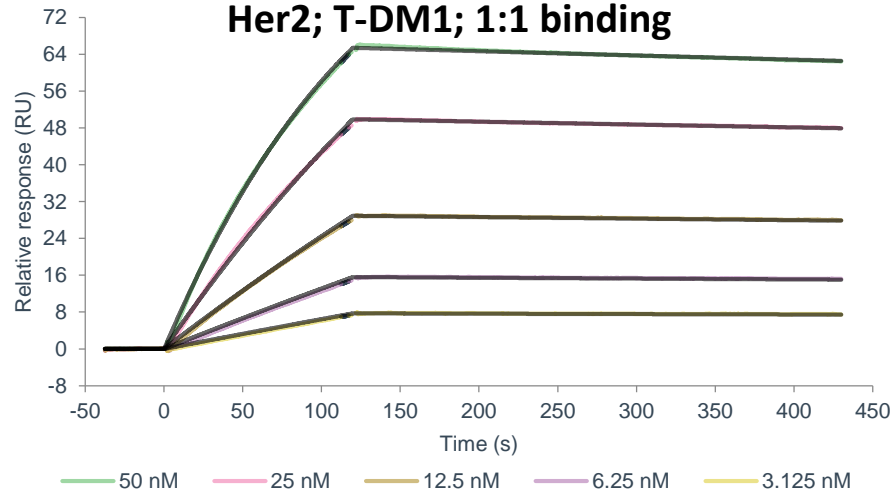
SK-BR-3



JIMT-1

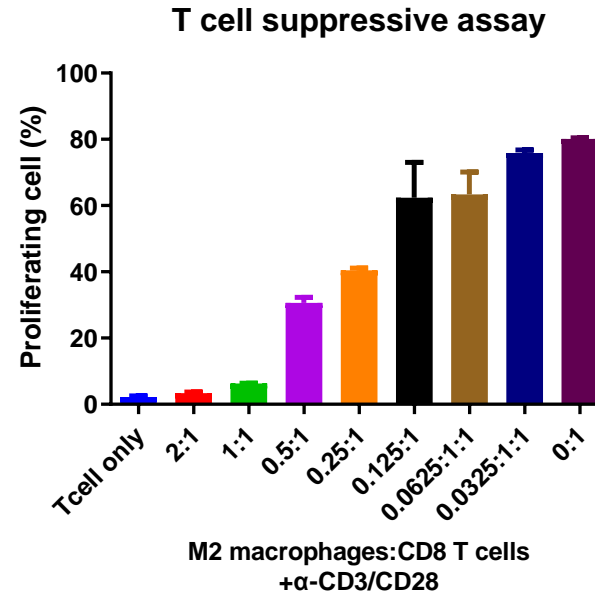
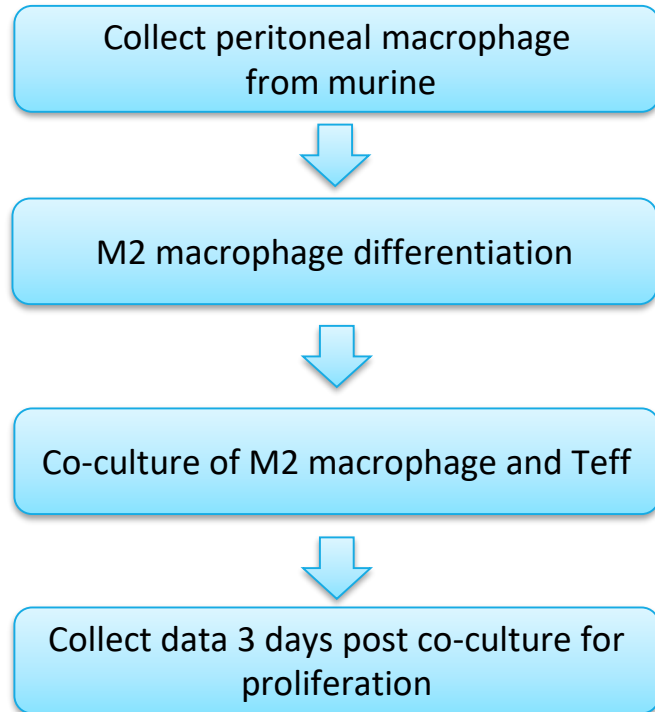


Her2; T-DM1; 1:1 binding

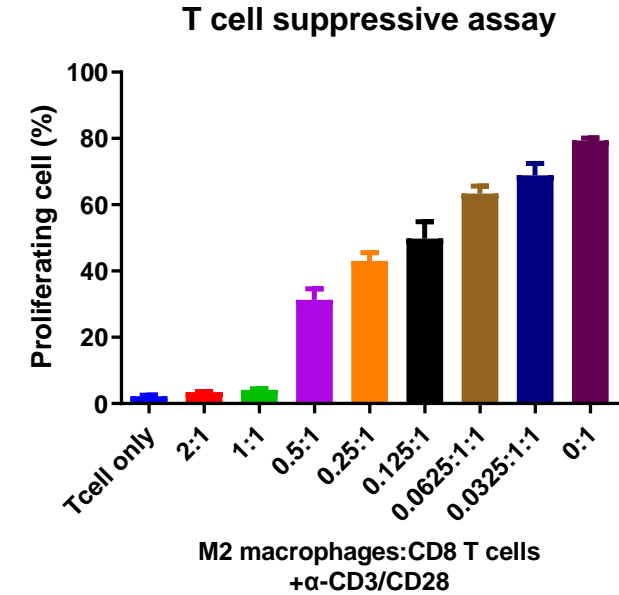


Case study-Immune cell function

Macrophage-M2 macrophage suppressive assay



- Induction by IL-4/PGE2

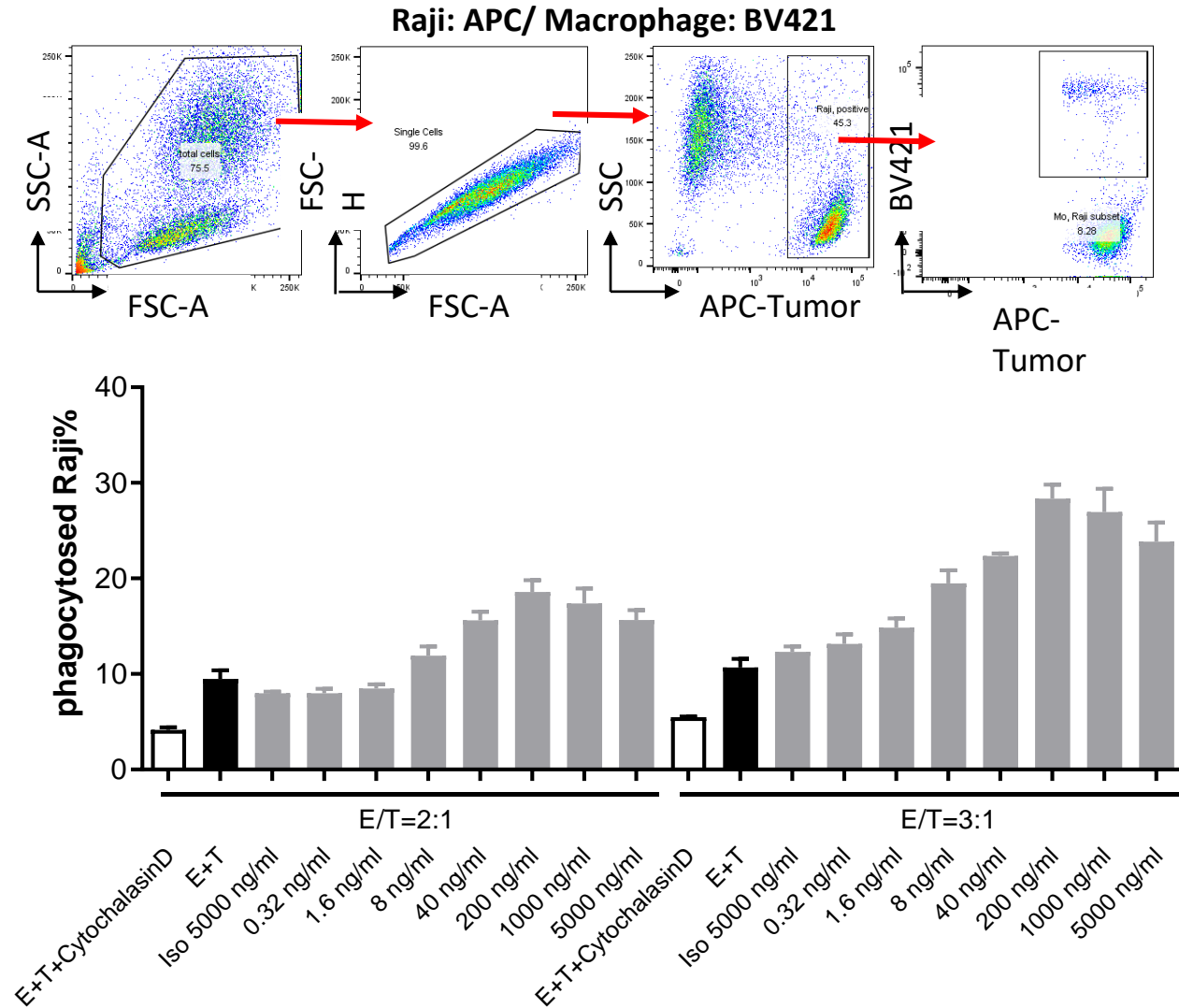
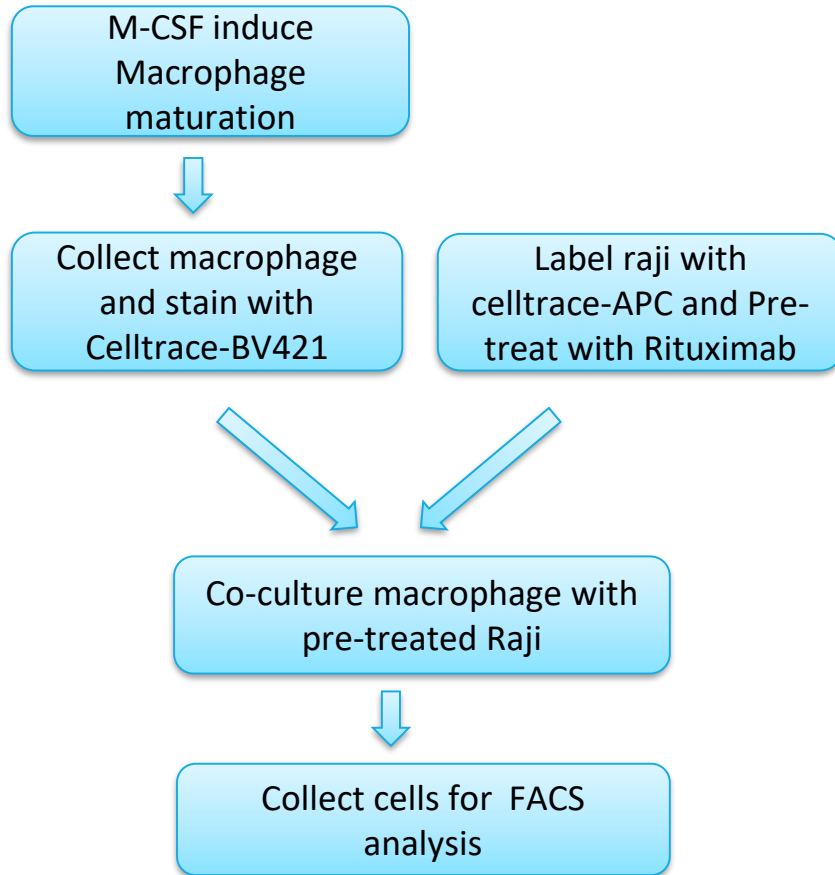


- Induction by IL-4/13

- Baseline activation of Teffs in the presence of CD3/CD28 T cell activator

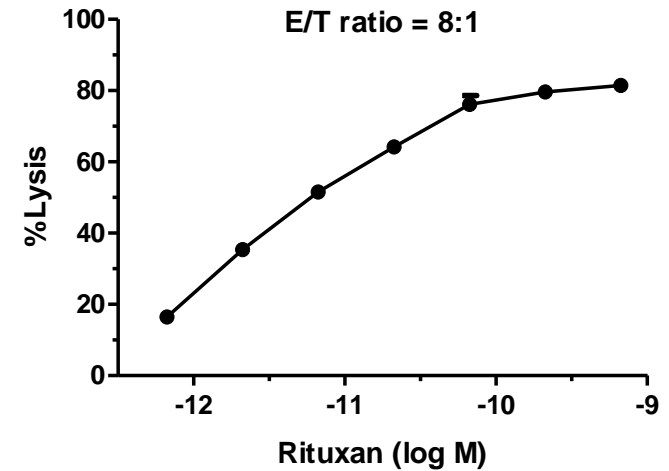
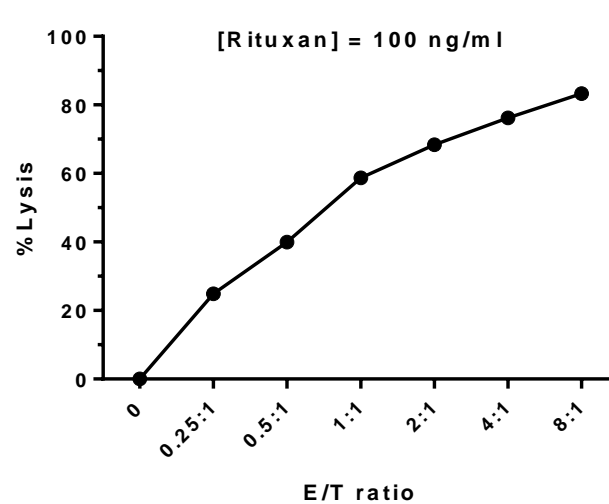
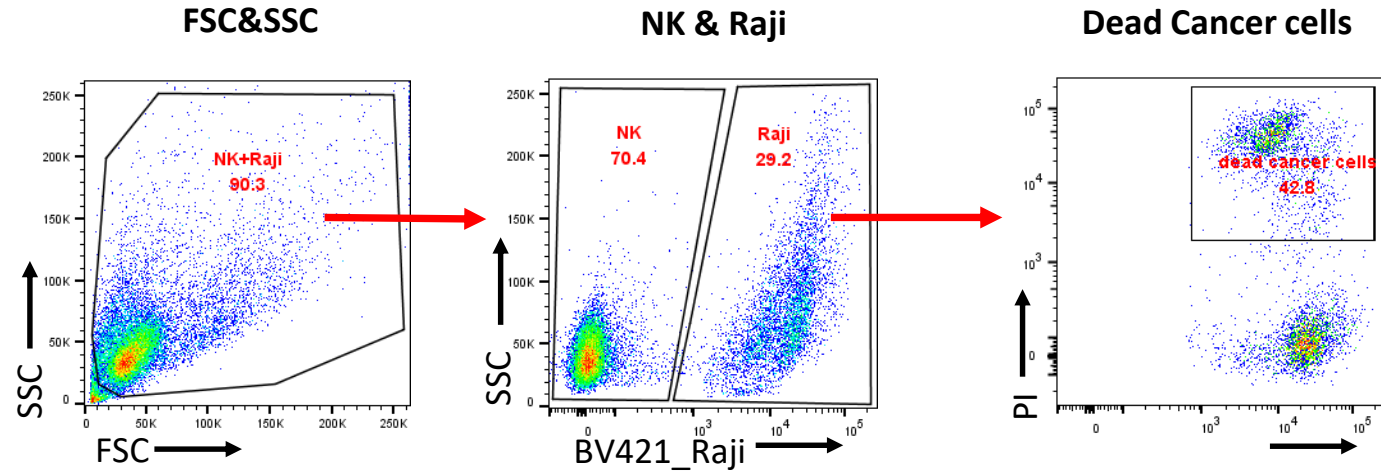
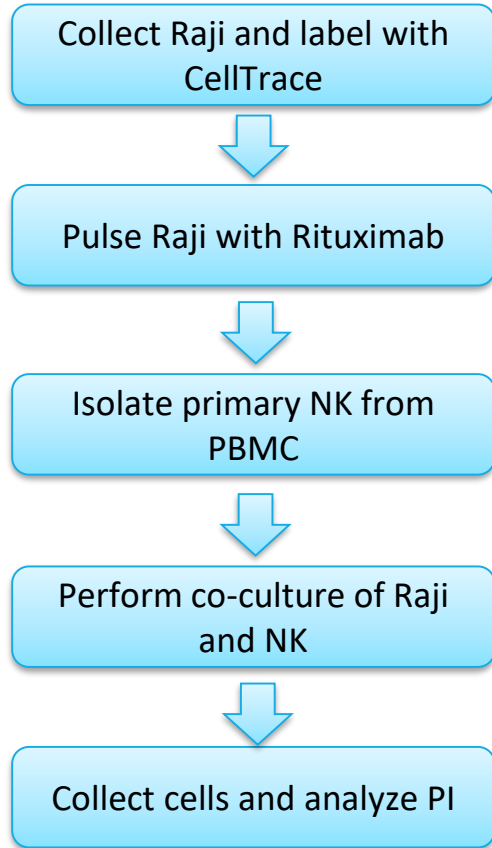
Case study-Immune cell function

Macrophage-Antibody dependent phagocytosis assay (ADCP)



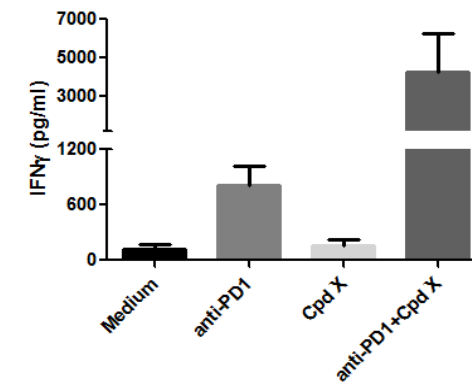
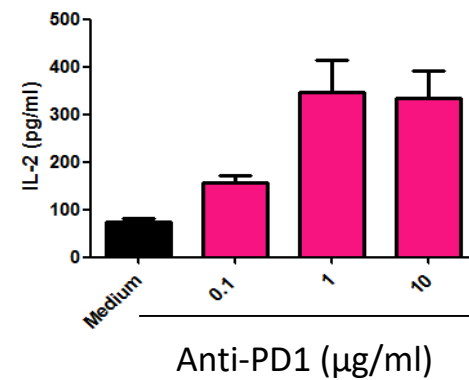
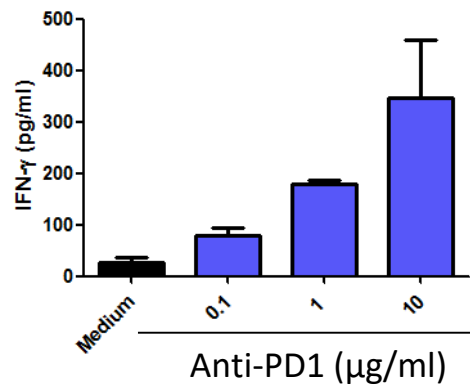
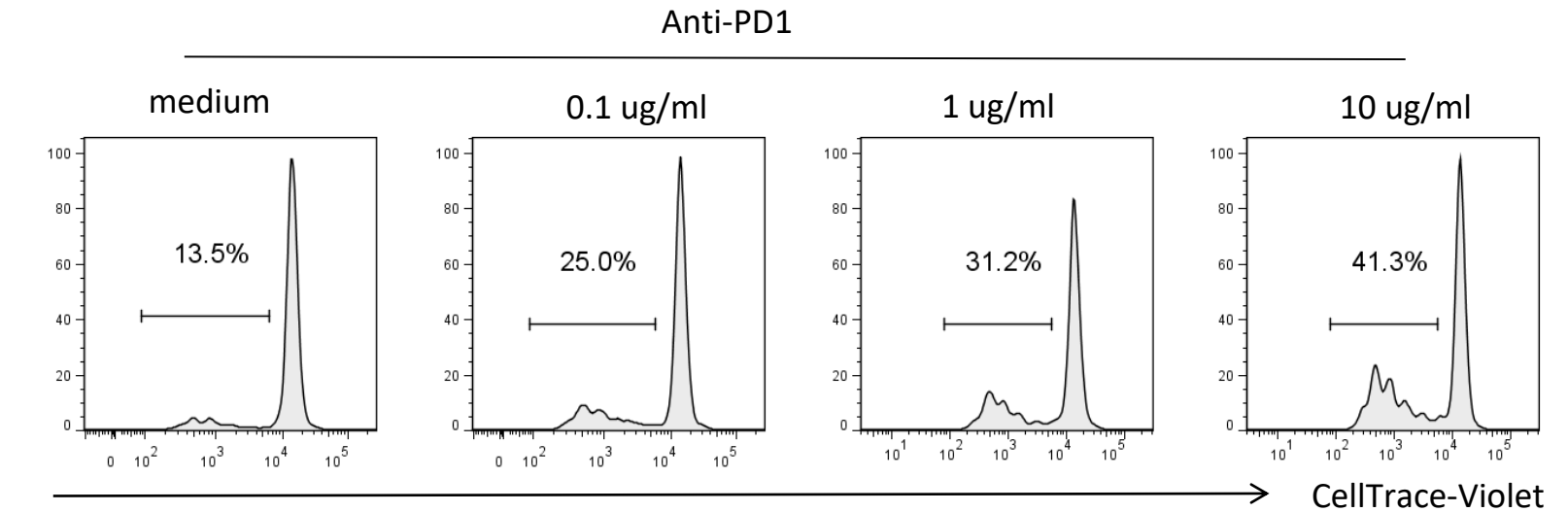
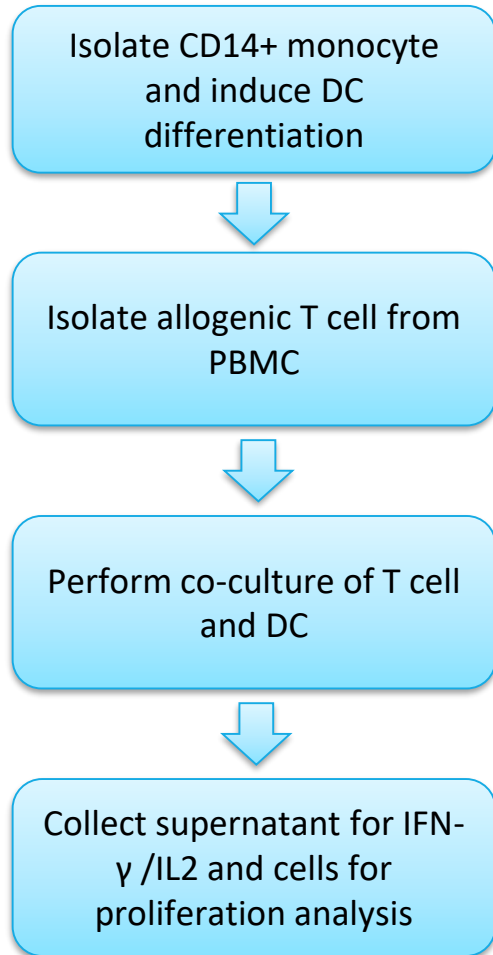
Case study-Immune cell function

NK cell-Antibody dependent cell-mediated cytotoxicity (ADCC)



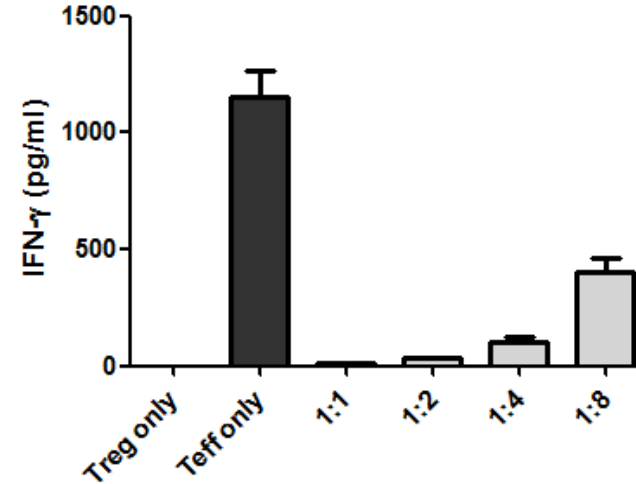
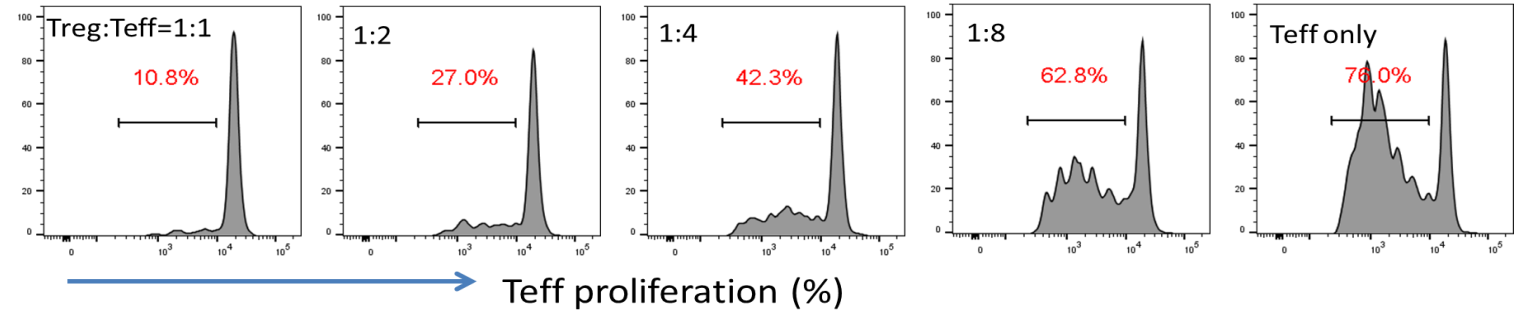
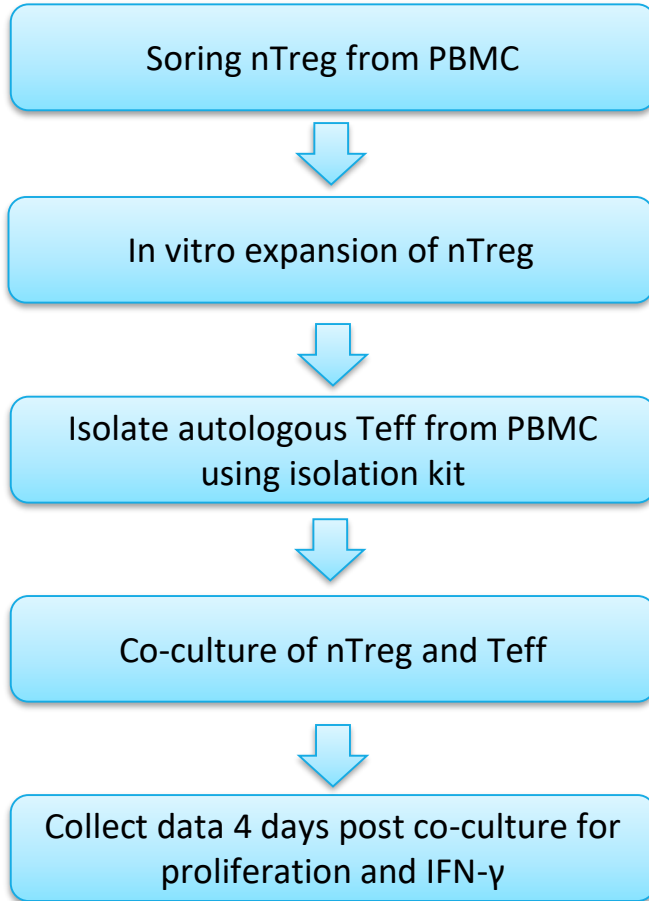
Case study-Immune cell function

Dendritic cell-Mixed lymphocyte reaction (MLR)



Case study-Immune cell function

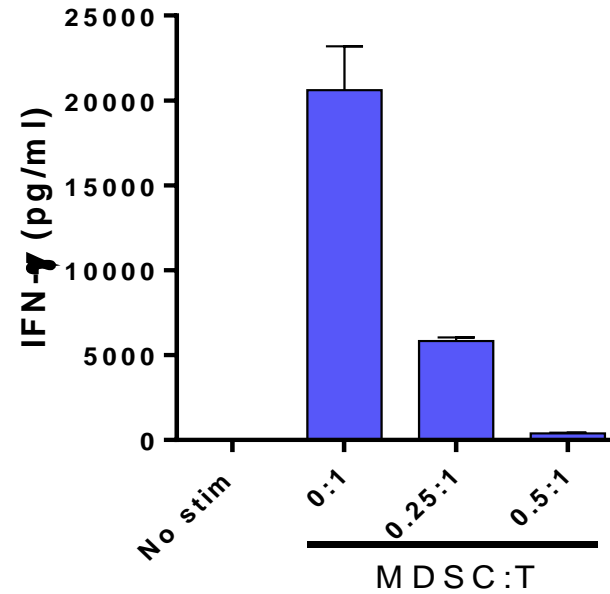
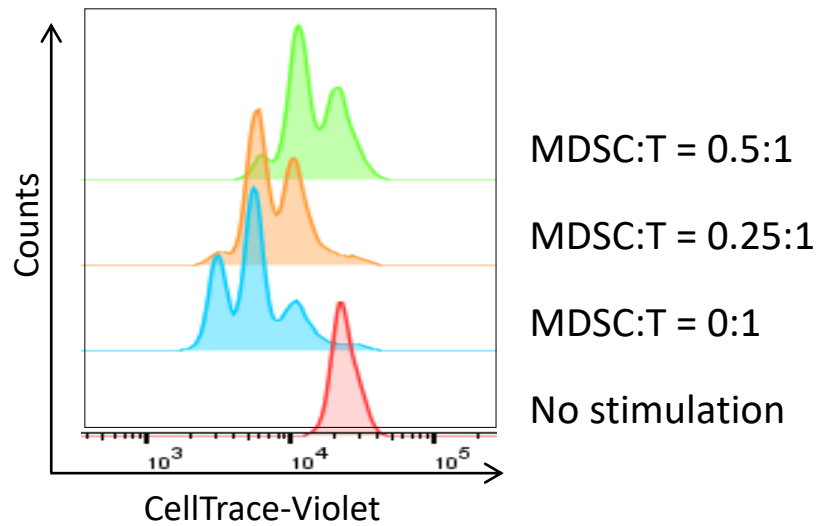
T cell-nTreg suppressive assay



Case study-Immune cell function

T cell-MDSC suppressive assay

MDSC suppress T cell proliferation and cytokine production in co-culture



- MDSCs were derived from human PBMCs induced by M-CSF and IL-6



OUR COMMITMENT

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For questions and requests, please email to OIU-BD-Translation@wuxiapptec.com



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