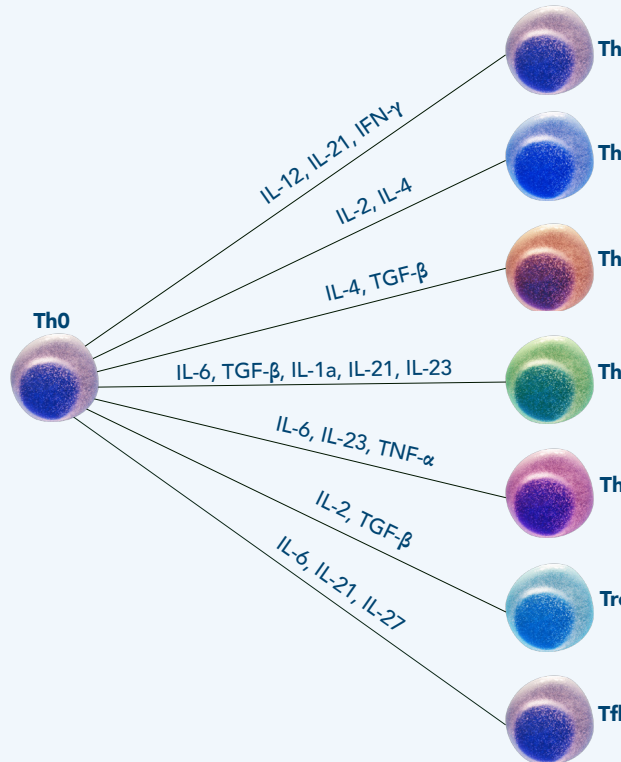


# Cytokines & Cell Markers for T Helper Cell Polarization

Proteintech can now offer a workflow solution for scientists working on T cells and Naïve T cell polarization.

T cell polarization is important in several immunological and biological processes. Each T cell subset can be polarized from a naïve Th0 precursor cell and have unique characteristics to provide specialized adaptive immunity against pathogens or self-antigens.

**\*Please turn over for relevant product recommendations.**

Product	Magnetic Cell Separation Kits	Cytokines for Polarization	T cell subset	Secreted Cytokines	Cell Markers
		HumanKine® and NeutraKine®		ELISA/AuthentiKine	Flow Cytometry / Intracellular flow cytometry
			 <p>Th0</p> <p>IL-12, IL-21, IFN-<math>\gamma</math></p> <p>IL-2, IL-4</p> <p>IL-4, TGF-<math>\beta</math></p> <p>IL-6, TGF-<math>\beta</math>, IL-1a, IL-21, IL-23</p> <p>IL-6, IL-23, TNF-<math>\alpha</math></p> <p>IL-2, TGF-<math>\beta</math></p> <p>IL-6, IL-21, IL-27</p> <p>Th1</p> <p>Th2</p> <p>Th9</p> <p>Th17</p> <p>Th22</p> <p>Treg</p> <p>Tfh</p>	<p>IL-2, IFN-<math>\gamma</math>, TNF-<math>\alpha</math></p> <p>IL-4, IL-4, IL-5, IL-6, IL-10</p> <p>IL-9, IL-10</p> <p>IL-17A, IL-17F, IL-21, IL-22</p> <p>IL-13, IL-22</p> <p>IL-10, TGF-<math>\beta</math></p> <p>IL-6, IL-10, IL-21</p>	<p>CD3, CD4, CD119 (IFN-<math>\gamma</math> R<math>\alpha</math>), CD183 (CXCR3), CD195 (CCR5), LT-<math>\beta</math>R, CD366 (Tim-3)</p> <p>CD3, CD4, CD119 (IFN-<math>\gamma</math> R<math>\alpha</math>)</p> <p>CD3, CD4, TCR <math>\alpha/\beta</math></p> <p>CD3, CD4, TCR <math>\alpha/\beta</math>, CD161, CD196 (CCR6)</p> <p>CD3, CD4, TCR <math>\alpha/\beta</math>, CD196 (CCR6), CCR10</p> <p>CD3, CD4, CD25 (IL-2R<math>\alpha</math>), CD39, CD73, CD103, GITR, TGF-<math>\beta</math>, FOXP3</p> <p>CD3, CD4, TCR <math>\alpha/\beta</math>, CD154 (CD40L), CD252 (OX40L), ICOS, PD-1</p>

### HumanKine® Recombinant Proteins

Protein Name	Cat No.
IFN gamma	HZ-1301
IL-1 alpha	HZ-1320
IL-2	HZ-1015
IL-4	HZ-1004
IL-6	HZ-1019
IL-12	HZ-1256
IL-21	HZ-1319
IL-23	HZ-1254
IL-27	HZ-1275
TGF beta 1	HZ-1011
TGF beta 2	HZ-1092
TGF beta 3	HZ-1090
TNF alpha	HZ-101

**\*Inquire for GMP grade\***

### Cell Separation Products

Target Name	Cat No.
CD3 Magnetic Beads	MS002
CD3 Magnetic Beads Kit (Biotin)	KMS001
CD4 Magnetic Beads	MS003
CD4 Magnetic Beads Kit (Biotin)	KMS002

### ELISA Kits (Human)

Target Name	Cat No.
IL-2	KE00017
AuthentiKine IFN gamma	KE00146
AuthentiKine TNF alpha	KE00154
IL-3	KE00185
IL-4	KE00016
AuthentiKine IL-4	KE00232
IL-5	KE00217
AuthentiKine IL-6	KE00139
AuthentiKine IL-10	KE00170
IL-13	KE00020
AuthentiKine IL-17A	KE00203
IL-21	KE00022
IL-22	KE00008
AuthentiKine IL-23	KE00192
TGF beta 1	KE00002

**\*Anti-mouse ELISA kits available at ptglab.com\***

### NeutraKine® Neutralizing Antibodies

Target Name	Cat No.
IL-2	KE0001
AuthentiKine IFN gamma	KE00146
AuthentiKine TNF alpha	KE00154
IL-3	KE00185
IL-4	KE00016
AuthentiKine IL-4	KE00232
IL-5	KE00217
AuthentiKine IL-6	KE00139
AuthentiKine IL-10	KE00170
IL-13	KE00020
AuthentiKine IL-17A	KE00203
IL-21	KE00022
IL-22	KE00008
AuthentiKine IL-23	KE00192
TGF beta 1	KE00002

**\*NeutraControl are non-neutralizing control antibodies\***

### Flow Cytometry Antibodies

Target Name	Cat No.	Unconjugated	APC	CoraLite 488	CoraLite 594	CoraLite 647	FITC	PE
CD3	65133 / 65151	✓	✓	✓	✓	✓	✓	✓
CD4	65143 / 65179 / 65104	✓	✓	✓	✓		✓	✓
CD119	10808-1-AP	✓						
CD183 (CXCR3)	60065-1-Ig	✓						
CD195 (CCR5)	17476-1-AP	✓						
Tim-3	60355-1-Ig	✓						
Tim-3	65115/65138	✓	✓	✓		✓	✓	✓
CCR10	22071-1-AP	✓			✓			
CD25	65097 / 65096	✓	✓	✓		✓	✓	✓
CD39	19229-1-AP	✓						
CD73	12232-1-AP / 65162	✓	✓	✓	✓	✓	✓	✓
CD103	65047	✓		✓		✓	✓	✓
GITR	65102	✓	✓	✓		✓	✓	✓
TGF beta	21898-1-AP	✓		✓	✓	✓		
FOXP3	65089	✓	✓	✓		✓		✓
CD154 (CD40L)	65129 / 66502	✓	✓	✓	✓	✓	✓	✓
CD252 (OX40L)	20006-1-AP	✓						
ICOS	65114	✓						✓
PD-1	65142 / 65120	✓	✓	✓		✓	✓	✓

**\*Anti-mouse antibodies available at ptglab.com\***