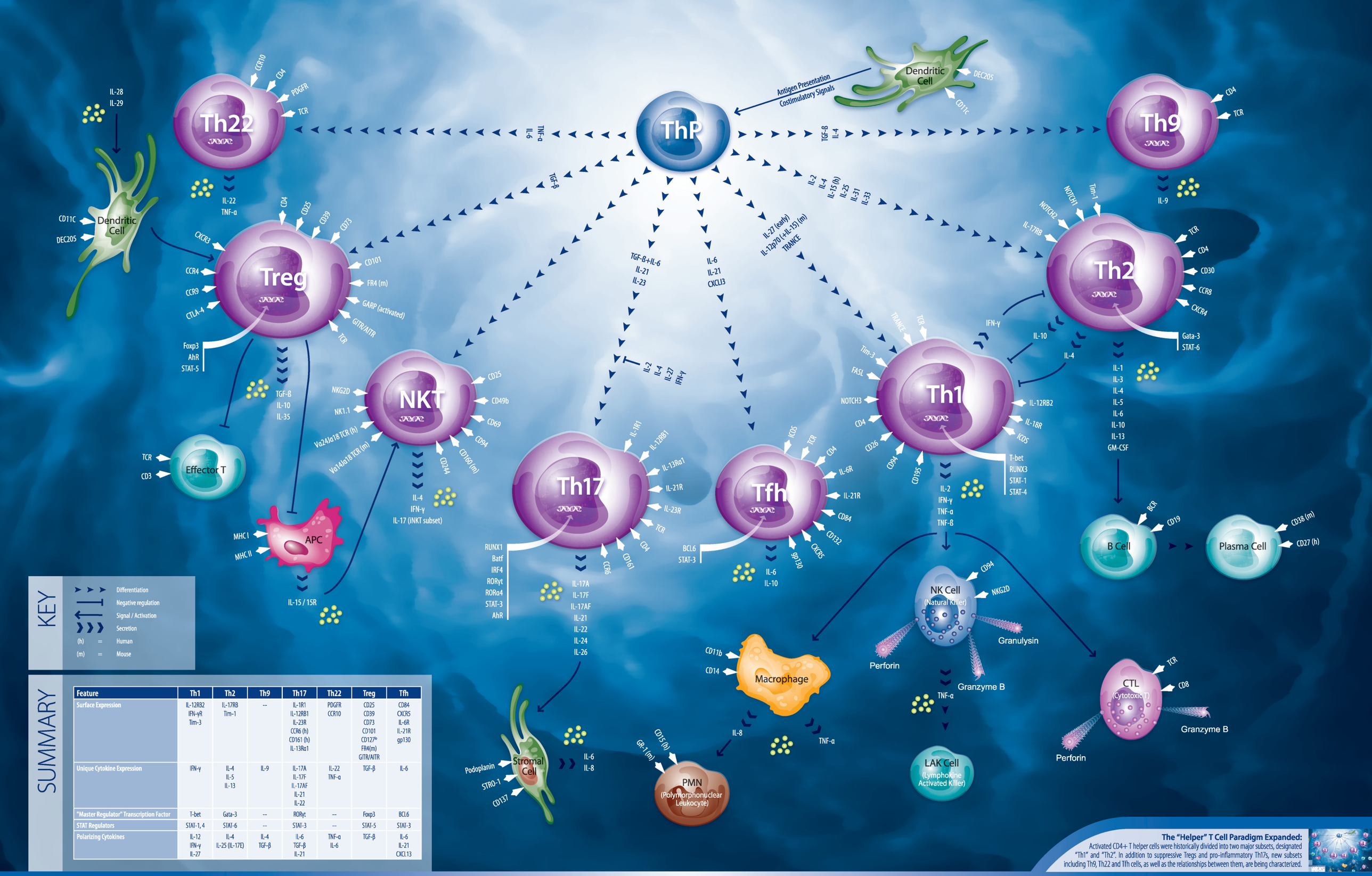


KEY

- Differentiation
- Negative regulation
- Signal / Activation
- Secretion
- (h) = Human
- (m) = Mouse

SUMMARY

Feature	Th1	Th2	Th9	Th17	Th22	Treg	Tfh
Surface Expression	IL-12RB2 IFN-γR Tim-3	IL-17RB Tim-1	--	IL-1R1 IL-12RB1 IL-23R CCR6 (h) CD161 (h) IL-13Rα1	PDGFR CCR10	CD25 CD39 CD73 CD101 CD127^{lo} FR4(m) GITR/AITR	CD84 CXCR5 IL-6R IL-21R gp130
Unique Cytokine Expression	IFN-γ	IL-4 IL-5 IL-13	IL-9	IL-17A IL-17F IL-17AF IL-21 IL-22	IL-22 TNF-α	TGF-β	IL-6
"Master Regulator" Transcription Factor	T-bet	Gata-3	--	RORγt	--	Foxp3	BCL6
STAT Regulators	STAT-1, 4	STAT-6	--	STAT-3	--	STAT-5	STAT-3
Polarizing Cytokines	IL-12 IFN-γ IL-27	IL-4 IL-25 (IL-17E)	IL-4 TGF-β	IL-6 TGF-β IL-21	TNF-α IL-6	TGF-β	IL-6 IL-21 CXCL13

The "Helper" T Cell Paradigm Expanded:
Activated CD4+ T helper cells were historically divided into two major subsets, designated "Th1" and "Th2". In addition to suppressive Tregs and pro-inflammatory Th17s, new subsets including Th9, Th22 and Tfh cells, as well as the relationships between them, are being characterized.

Q409003_T-Cell_Lineage

The "Helper" T Cell Paradigm Expanded

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