

The Local Cytokine Milieu: A Balancing Act

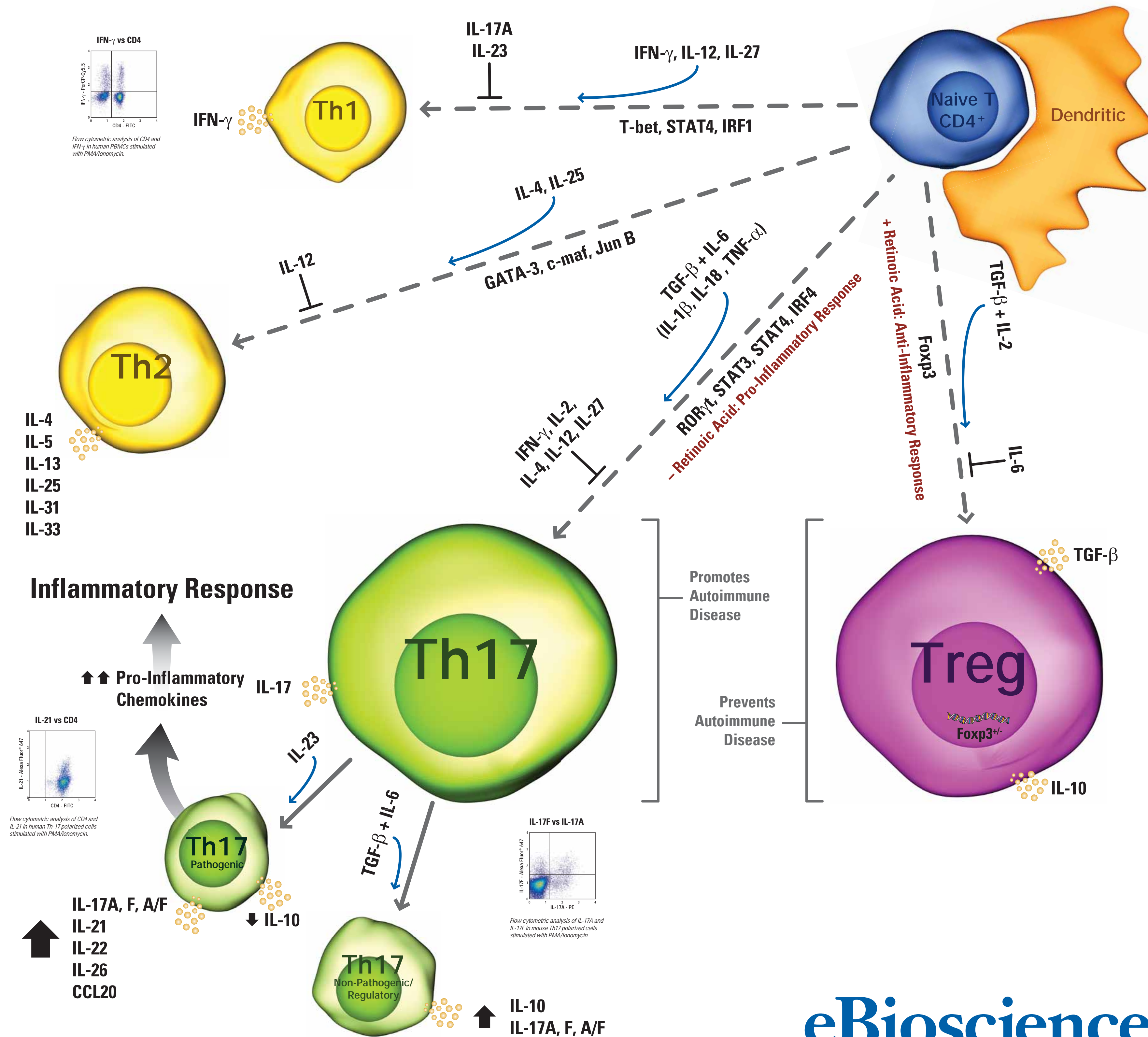
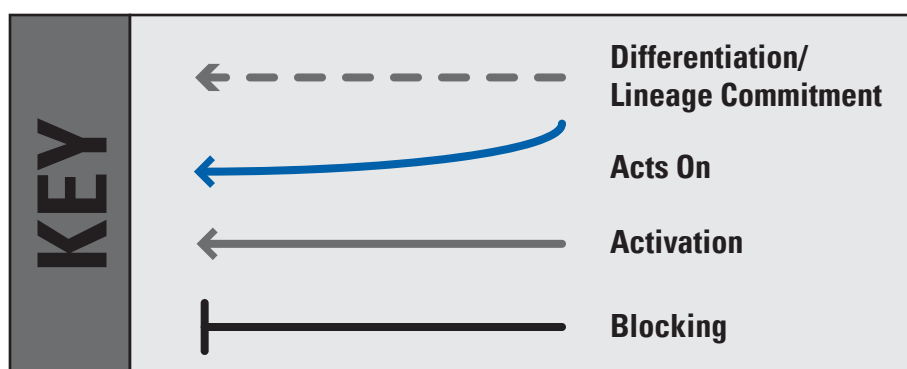
T Cell Subpopulations

Th1	
Polarization	IL-12, IL-27
Phenotype	T-bet, STAT1, STAT4, IL-12Rβ1, IL-18Rα, LTα, CD183/CXCR3, Tim-3
Cytokine Signature	IFN-γ
Physiologic Relevance	Cell-mediated immunity, delayed-type hypersensitivity

Th2	
Polarization	IL-4, IL-25
Phenotype	GATA-3, STAT6, c-maf, CD30
Cytokine Signature	IL-4, IL-5, IL-13, IL-25, IL-31, IL-33
Physiologic Relevance	Humoral immunity, allergic and parasitic responses

Treg	
Polarization	TGF-β, IL-2, RA/ATRA
Phenotype	CD25 ^{hi} , CD101, CD127 ^{lo} , CD152/CTLA4, GITR, Foxp3, FR4 (mouse)
Cytokine Signature	IL-10, TGF-β
Physiologic Relevance	Self tolerance, immune suppression

Th17/Thi	
Polarization	IL-1β + IL-23 (human), IL-6 + TGF-β (mouse)
Phenotype	RORγt, STAT3, Act-1, Smads, IL-12Rβ1, IL-18Rα, IL-23R, CD183/CXCR3, Tim-3
Cytokine Signature	IL-10, IL-17A, IL-17A/F, IL-21, IL-22, IL-26, CCL20
Physiologic Relevance	Pro-inflammatory response, autoimmune disease, bacterial/fungal protection



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