

Cytokine	Secreted by	Activity
IL-1	Macrophage	- Inflammation - Hypothalamus → Fever - Liver → Synthesis of acute phase proteins
IL-2	All T cells	- Growth of NK & T cells
IL-3	All T cells	- Growth & Differentiation of Myeloid Progenitor cells
IL-4	TH ₂	- Differentiation of T cells → TH ₂ (Suppress TH ₁) - Growth of B cells - Class switch to IgE & IgG
IL-5	TH ₂	- Eosinophil activation - Differentiation of B cells → Plasma cells - Class switch to IgA
IL-6	Macrophage TH ₂ TH ₁₇	- Liver → Synthesis of acute phase proteins - Promotes TH ₁₇ Differentiation
IL-7		- Growth & Differentiation of Lymphoid Progenitor cells - Prolongs naive & memory T cell lives
IL-8	Macrophage	- Neutrophil attraction & adherence to endothelium
IL-10	TH ₂	- Attenuates Inflammatory response - Suppress cytokine production by TH ₁
IL-12	Macrophage	- Activates NK cells - Differentiation of T cell → TH ₁
IL-13	TH ₂	- Class switch to IgE
IL-15	Macrophage	- Growth of NK & T cells
IL-17	TH ₁₇	- Pro-inflammatory (stimulates IL-1 & IL-6) - Recruits neutrophils
IL-18	-	- Activated NK cells - IFN- γ synthesis - Expression of GM-CSF, TNF, IL-1 β
IL-21	TH ₁₇ TH ₂	- Pro-inflammatory - Work together with IL-22
IL-22	TH ₁₇	- Targets epithelial cells; \uparrow barrier function - Production of defensins
IL-23	-	- \uparrow TH ₁₇ activity
TNF- α	Macrophage	- Inflammation - Hypothalamus → Fever
TNF- β	TH ₁ CTLs (CD8 ⁺)	- Enhances Phagocytic activity - Liver: synthesis of acute phase proteins - Muscle & Fat Catabolism → Cachexia
IFN- α type I Interferon	Plasmacytoid Dendritic Cells	- Inhibits viral replication - \uparrow MHC I expression
IFN- β type I Interferon	Plasmacytoid Dendritic Cells	- Activates NK Cells
IFN- γ type II Interferon	- TH ₁ - CTLs (CD8 ⁺) - NK Cells	- Inhibits viral replication - \uparrow MHC I & MHC II expression - Activates Macrophages - Inhibits differentiation of T cells → TH ₂
TGF- β	Macrophage	- Anti-inflammatory - Pro-inflammatory in presence of IL-6 - Differentiation of T _{reg} - Inhibits macrophage activation - Stimulates Angiogenesis

“Hot T-bone stEAK”

- IL-1: fever (**hot**)
- IL-2: stimulates **T** cells
- IL-3: stimulates **bone** marrow
- IL-4: stimulates Ig**E** production
- IL-5: stimulates Ig**A** production
- IL-6: stimulates a**K**ute-phase protein production
- **TH₁ cells coordinate a cell mediated (macrophages & CTL) immune response** and inhibit a TH₂ stimulated humoral response
- **TH₂ cells coordinate a humoral (B cell) immune response** and suppress a TH₁ stimulated cell mediated immune response

