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Recombinant Human IL-18 Protein

Catalog Number:	630201, 630202
Size:	10 µg, 100 µg
Target Name:	IL-18, IL18, IL1F4, Interferon-gamma-inducing factor, IGIF, IL-1g
Regulatory Status:	RUO

PRODUCT DETAILS

Application:	Bioassay
Format:	Lyophilized from sterile PBS, pH 7.4.
Expression Host:	E.coli
Species:	Human
accession number:	NP_001553.1
Sources:	A DNA sequence encoding the human IL18 (NP_001553.1) (Tyr37-Asp193) was expressed.
Molecular Weight:	The recombinant human IL18 consists 157 amino acids and predicts a molecular mass of 18.2 kDa.
Affinity Tag:	None
Purity:	> 95 % as determined by SDS-PAGE. > 95 % as determined by SEC-HPLC.
Endotoxin level:	
Protein Concentration:	Lyophilized
Storage and Handling:	Proteins are stable for up to twelve months from date of receipt at -20℃ to -80℃. Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.

BACKGROUND INFORMATION

Human interleukin-18 (IL-18) is a proinflammatory cytokine belonging to the IL-1 family, with a key role in innate and adaptive immunity. It is produced by macrophages, dendritic cells, epithelial cells, and other tissues as an inactive precursor that requires cleavage by caspase-1 within the inflammasome to become biologically active. IL-18 is best known for its ability to induce interferon-gamma (IFN-γ) production from natural killer (NK) cells and T cells, especially in synergy with IL-12, thereby promoting T helper 1 (Th1) immune responses.

Structurally, IL-18 is a single-chain polypeptide that adopts a β-trefoil fold typical of IL-1 family cytokines. Its primary receptor is a heterodimer composed of IL-18Rα (binding chain) and IL-18Rβ (accessory chain), which together initiate downstream signaling through the MyD88-dependent pathway and activation of NF-κB and MAP kinases. A natural high-affinity antagonist, IL-18 binding protein (IL-18BP), tightly regulates IL-18 activity by preventing receptor engagement.

Dysregulated IL-18 expression is implicated in inflammatory and autoimmune diseases such as rheumatoid arthritis, psoriasis, and inflammatory bowel disease, as well as in metabolic and cardiovascular disorders. Elevated IL-18 levels are also associated with

severe infections and cytokine storm syndromes. Therapeutically, targeting IL-18 signaling—particularly through recombinant IL-18BP or neutralizing antibodies—has emerged as a strategy to control excessive inflammation. Conversely, IL-18 is being explored as an immune activator in cancer immunotherapy to enhance anti-tumor responses.