

IL-18 Protein, Human, Recombinant (GST)

General Information

Synonyms:	IL-18;IL-1g;IGIF;IL1F4;interleukin 18
Protein Construction:	A DNA sequence encoding the pro form of human IL18 (Q14116) (Met1-Asp193) was fused with the GST tag at the N-terminus. Predicted N terminal: Met
Species:	Human
Expression Host:	E. coli
Accession:	Q14116
Molecular Weight:	48.6 kDa (predicted)

QC Testing

Biological Activity:	inactive
Purity:	> 85 % as determined by SDS-PAGE
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution filtered through a 0.22 µm filter, containing PBS, pH 7.5. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:
A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Interleukin-18 (IL-18, also known as interferon-gamma inducing factor) is a proinflammatory cytokine that belongs to the IL-1 superfamily and is produced by macrophages and other cells. This cytokine can induce the IFN-gamma production of T cells. The combination of IL-18 and IL12 has been shown to inhibit IL4 dependent IgE and IgG1 production, and enhance IgG2a production of B cells. IL-18 binding protein (IL18BP) can specifically interact with this cytokine, and thus negatively regulate its biological activity. IL-18 is an IL-1-like cytokine that requires

cleavage with caspase-1 to become active, was found to increase IgE production in a CD4+ T cell -, IL-4- and STAT6-dependent fashion. IL-18 and T cell receptor-mediated stimulation could induce naive CD4+ T cells to develop into IL-4-producing cells in vitro. Thus, caspase-1 and IL-18 may be critical in the regulation of IgE production in vivo, providing a potential therapeutic target for allergic disorders. IL-18 production in primary synovial cultures and purified synovial fibroblasts was, in turn, upregulated by TNF- α and IL-1 β , suggesting that monokine expression can feedback to promote Th1 cell development in the synovial membrane. Besides, synergistic combinations of IL-18, IL-12, and IL-15 may be of importance in sustaining both Th1 responses and monokine production in RA. Cancer Immunotherapy Immune Checkpoint Immunotherapy Targeted Therapy

Reference

Dinarelli CA. (1999) IL-18: A TH1-inducing, proinflammatory cytokine and new member of the IL-1 family. *J Allergy Clin Immunol.* 103: 11-24.

Takeda K, et al.. (1998) Defective NK cell activity and Th1 response in IL-18-deficient mice. *Immunity.* 8(3): 383-90.

Gracie JA, et al.. (1999) A proinflammatory role for IL-18 in rheumatoid arthritis. *J Clin Invest.* 104(10): 1393-401.

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