

## IL-18 Protein, Mouse, Recombinant

### General Information

Synonyms:	interleukin 18;IL-18;lgif
Protein Construction:	A DNA sequence encoding the mouse IL18 (P70380-1) (Asn36-Ser192) was expressed and purified. Predicted N terminal: Met
Species:	Mouse
Expression Host:	E. coli
Accession:	P70380-1
Molecular Weight:	18.2 kDa (predicted); 19 kDa (reducing conditions)

### QC Testing

Biological Activity:	Measured by its ability to induce IFN- $\gamma$ secretion by KG-1 human myelomonocyte. The ED50 for this effect is typically 0.1-0.8 $\mu$ g/mL.
Purity:	> 90 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/ $\mu$ g of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 $\mu$ m filter, containing PBS, pH 7.4. 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:	Reconstituted with sterile deionized water to 0.25 mg/mL. Reconstitution conditions may vary depending on the lot.
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. <small>Actual storage temperature shall be subject to the COA.</small>

### 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- $\alpha$  and IL-1 $\beta$ , 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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