

## Recombinant Mouse IL-18 Protein(Halo Tag)

Catalog Number: GPMM0241

**Note:** Centrifuge before opening to ensure complete recovery of vial contents.

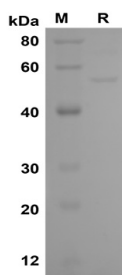
### Description

|               |                                                                             |
|---------------|-----------------------------------------------------------------------------|
| Species       | Mouse                                                                       |
| Source        | Mammalian-derived Mouse IL-18 protein Asn36-Ser192, with an C-terminal Halo |
| Calculated MW | 59.1 kDa                                                                    |
| Observed MW   | 58 kDa                                                                      |
| Accession     | P70380                                                                      |
| Bio-activity  | Not validated for activity                                                  |

### Properties

|                |                                                                                                                                                                                                                                        |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Purity         | > 90% as determined by reducing SDS-PAGE.                                                                                                                                                                                              |
| Endotoxin      | < 1.0 EU/mg of the protein as determined by the LAL method                                                                                                                                                                             |
| Storage        | Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80 °C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months. |
| Shipping       | This product is provided as lyophilized powder which is shipped with ice packs.                                                                                                                                                        |
| Formulation    | Lyophilized from a 0.2 µm filtered solution in PBS with 5% Trehalose and 5% Mannitol.                                                                                                                                                  |
| Reconstitution | It is recommended that sterile water be added to the vial to prepare a stock solution of 0.5 mg/mL. Concentration is measured by UV-Vis.                                                                                               |

### Data



SDS-PAGE analysis of Mouse IL-18 proteins, 2µg/lane of Recombinant Mouse IL-18 proteins, was resolved with SDS-PAGE under reducing conditions, showing bands at 58 KD

### 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.