Recombinant Human IL-18 Protein (His Tag)

Catalog Number: PDEH100873

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

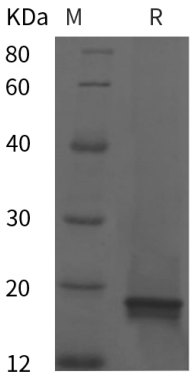
Description

Species	Human
Source	E.coli-derived Human IL-18 protein Tyr37-Asp193, with an C-terminal His
Calculated MW	17.2 kDa
Observed MW	18 kDa
Accession	Q14116
Bio-activity	Not validated for activity

Properties

Purity	> 95% as determined by reducing SDS-PAGE.
Endotoxin	< 10 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 Human IL-18 proteins, 2 μg/lane of Recombinant Human IL-18 proteins was resolved with SDS-PAGE under reducing conditions, showing bands at 18 kDa.

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&minus,like cytokine that requires cleavage with caspase-1 to become active, was found to increase IgE production in a CD4+ T cells-, IL-4&minus, and STAT6& minus,dependent fashion. IL-18 and T cell receptor&minus,mediated stimulation could induce na&iuml,ve CD4+ T cells to develop into IL-4&minus,producing cells in vitro. Thus, caspase-1 and IL-18 may be critical in 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 feed back to promote Th1 cell development in 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.

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