

IL-18BP Protein, Human, Recombinant (His)

General Information

Synonyms:	interleukin 18 binding protein;IL18BPa
Protein Construction:	A DNA sequence encoding the human IL18BPa (NP_001034748.1) (Met1-Gly194) was expressed with the polyhistidine tag at the C-terminus. Predicted N terminal: Thr 31
Species:	Human
Expression Host:	HEK293 Cells
Accession:	O95998
Molecular Weight:	19 kDa (predicted); 40.3 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	<ol style="list-style-type: none">1. Measured by its ability to bind biotinylated Cynomolgus IL18 in functional ELISA.2. Measured by its ability to inhibit the IL-18-induced response of KG-1 human acute myelogenous leukemia cells. The ED50 for this effect is 0.05-0.35µg/mL in the presence of 50 ng/mL of recombinant human IL-18.
Purity:	> 85 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/µg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 µm 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:	<p>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.</p> <p><small>Actual storage temperature shall be subject to the COA.</small></p>
Shipping:	In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Interleukin-18-binding protein (IL-18BP) is a constitutively expressed and secreted protein. IL-18BP is a cytokine receptor that belongs to the interleukin 1 receptor family. This receptor specifically binds interleukin 18 (IL18) and is essential for IL18 mediated signal transduction. IFN-alpha and IL12 are reported to induce the expression of this

receptor in NK and T cells. This gene along with four other members of the interleukin 1 receptor family, including IL1R2, IL1R1, IL1RL2 (IL-1Rrp2), and IL1RL1 (T1/ST2), form a gene cluster on chromosome 2q. The adjacently located family members IL18 Receptor 1 (IL18R1) and IL18 receptor accessory protein (IL18RAP) may also be important in the development of asthma and atopy. IL-18 binding protein (IL-18BP) was only moderately elevated, resulting in a high level of biologically active free IL-18 in HPS. A severe IL-18/IL-18BP imbalance results in Th-1 lymphocyte and macrophage activation, which escapes control by NK-cell cytotoxicity and may allow for secondary HPS in patients with underlying diseases.

Reference

Novick D, et al.. (2001) A novel IL-18BP ELISA shows elevated serum IL-18BP in sepsis and extensive decrease of free IL-18. *Cytokine*. 14(6): 334-42.

Mazodier K, et al.. (2005) Severe imbalance of IL-18/IL-18BP in patients with secondary hemophagocytic syndrome. *Blood*. 106(10): 3483-9.

Akira S. (2000) The role of IL-18 in innate immunity. *Curr Opin Immunol*. 12(1): 59-63.

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