

IL-18RAP Protein, Mouse (sf9, His)

Cat. No.:	HY-P75848
Synonyms:	Interleukin-18 receptor accessory protein; IL-18RACp; AcPL; IL-18RAP; CD218b
Species:	Mouse
Source:	Sf9 insect cells
Accession:	Q9Z2B1 (M1-E356)
Gene ID:	16174
Molecular Weight:	Approximately 44 kDa

PROPERTIES

Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 µm filtered solution of 20 mM Tris, 500 mM NaCl, 10% Glycerol, pH 7.4. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	<p>IL-18R beta (interleukin-18 receptor beta, also known as IL18RAP) is the signal transducing chain of the IL-18R complex and is also a member of the IL-1R family. IL-18R beta is expressed on T-cells, NK cells and dendritic cells, but not commonly expressed in mesenchymal cells^[1].</p> <p>The amino acid sequence of human IL-18R beta protein has low homology for mouse IL-18R beta protein.</p> <p>IL-18R beta is the receptor of IL-18. IL-18 forms a signaling complex by binding to the IL-18 alpha chain (IL-18Rα). The co-receptor, termed IL-18 receptor beta chain (IL-18Rβ), is recruited to form a high affinity complex^[1]. IL-18/IL-18Rα/IL-18Rβ ternary complex formation juxtaposes the intracellular Toll-Interleukin-1 receptor domains of IL-18Rα and IL-18Rβ. Then, the adaptor molecule myeloid differentiation factor 88 (MyD88) is recruited presumably with the aid of TRAM. MyD88 further interacts with IL-1 receptor associating kinase (IRAK) 4 and IRAK1/2 to form the large molecular assembly referred to as Myddosome, which subsequently activates IKK via TRAF6. Finally, the signal activates the NF-κB and mitogen-activated protein kinase pathways^[2], which upregulate the expression of various inflammatory cytokines^[2].</p> <p>IL-18R beta binds to IL-18 and IL-18 receptor alpha forms a signalling complex induces the expression of various inflammatory cytokines^[2]. IL-18R beta knockdown inhibits tumor cell metastasis^[4].</p>
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REFERENCES

- [1]. Dinarello CA, et al. Interleukin-18 and IL-18 binding protein. *Front Immunol.* 2013 Oct 8;4:289.
- [2]. Tsutsumi N, et al. The structural basis for receptor recognition of human interleukin-18. *Nat Commun.* 2014 Dec 15;5:5340.
- [3]. Watanabe M, et al. Predominant expression of 950delCAG of IL-18R alpha chain cDNA is associated with reduced IFN-gamma production and high serum IgE levels in atopic Japanese children. *J Allergy Clin Immunol.* 2002 Apr;109(4):669-75.
- [4]. Kim J, et al. Hypoxia-induced IL-18 increases hypoxia-inducible factor-1alpha expression through a Rac1-dependent NF-kappaB pathway. *Mol Biol Cell.* 2008 Feb;19(2):433-44.
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Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA