

IL-18 R beta /IL-1R7 Protein, Human (HEK293, His)

Cat. No.:	HY-P72573
Synonyms:	Interleukin-18 receptor accessory protein; IL-18RacP; AcPL; CDw218b; IL-1RacPL; IL-1R7; IL-18R-beta; CD218b
Species:	Human
Source:	HEK293
Accession:	O95256 (F20-R356)
Gene ID:	8807
Molecular Weight:	Approximately 56 kDa

PROPERTIES

AA Sequence	<pre> F N I S G C S T K K L L W T Y S T R S E E E F V L F C D L P E P Q K S H F C H R N R L S P K Q V P E H L P F M G S N D L S D V Q W Y Q Q P S N G D P L E D I R K S Y P H I I Q D K C T L H F L T P G V N N S G S Y I C R P K M I K S P Y D V A C C V K M I L E V K P Q T N A S C E Y S A S H K Q D L L L G S T G S I S C P S L S C Q S D A Q S P A V T W Y K N G K L L S V E R S N R I V V D E V Y D Y H Q G T Y V C D Y T Q S D T V S S W T V R A V V Q V R T I V G D T K L K P D I L D P V E D T L E V E L G K P L T I S C K A R F G F E R V F N P V I K W Y I K D S D L E W E V S V P E A K S I K S T L K D E I I E R N I I L E K V T Q R D L R R K F V C F V Q N S I G N T T Q S V Q L K E K R </pre>
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4.
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. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
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	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] .
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The amino acid sequence of human IL-18R beta protein has low homology for mouse IL-18R beta protein. IL-18R beta is the receptor of IL-18. IL-18 forms a signaling complex by binding to the IL-18 alpha chain (IL-18R α). The co-receptor, termed IL-18 receptor beta chain (IL-18R β), is recruited to form a high affinity complex^[1]. IL-18/IL-18R α /IL-18R β ternary complex formation juxtaposes the intracellular Toll-Interleukin-1 receptor domains of IL-18R α and IL-18R β . 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- κ B and mitogen-activated protein kinase pathways⁷, which upregulate the expression of various inflammatory cytokines^[2]. 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].

REFERENCES

- [1]. Tsutsumi N, et al. The structural basis for receptor recognition of human interleukin-18. *Nat Commun.* 2014 Dec 15;5:5340.
- [2]. 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.
- [3]. 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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