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Human IL-9 protein, His Tag

Cat #: PRP100272 Size: 20μg/100μg/1mg

Product Information

	Product Name: Human IL-9 protein, His Tag		
REF	**Catalog Number:** PRP100272	LOT	**Lot Number:** Refer to product label
	Purity: > 97 % as determined by SDS-PAGE		
	**Storage:** Store at -20°C		**Preparation method:** Baculovirus-Insect Cells
	Shipping: The product is shipped at ambient temperature.		

Background: Interleukin 9, also known as IL-9, is a cytokine (cell signalling molecule) belonging to the group of interleukins. IL-9 is a cytokine that acts as a regulator of a variety of hematopoietic cells. This cytokine stimulates cell proliferation and prevents apoptosis. It functions through the interleukin 9 receptor (IL-9R), which activates different signal transducer and activator (STAT) proteins and thus connects this cytokine to various biological processes. Genetic studies on a mouse model of asthma demonstrated that this cytokine is a determining factor in the pathogenesis of bronchial hyperresponsiveness. IL-9 is a key molecule that affects differentiation of TH17 cells and Treg function. IL-9 predominantly produced by TH17 cells, synergizes with TGF-β1 to differentiate naïve CD4+ T cells into TH17 cells, while IL-9 secretion by TH17 cells is regulated by IL-23. Interestingly, IL-9 enhances the suppressive functions of FoxP3+ CD4+ Treg cells in vitro, and absence of IL-9 signaling weakens the suppressive activity of nTregs in vivo, leading to an increase in effector cells and worsening of experimental autoimmune encephalomyelitis. The mechanism of IL-9 effects on TH17 and Tregs is through activation of STAT3 and STAT5 signaling. Our findings highlight a role of IL-9 as a regulator of pathogenic versus protective mechanisms of immune responses.

Sequence: Amino acid sequence derived from human IL9 (NP_000581.1) (Gln 19-Il4 144) was expressed and purified, fused with a polyhistidine tag at the C-terminus.

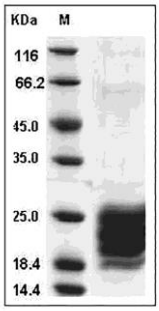
Protein length: The recombinant human IL9 consists of 136 amino acids and predicts a molecular mass of 15.5 kDa. rhIL9 migrates as multiple bands with the molecular mass of 18-25 kDa band in SDS-PAGE under reducing conditions due to different glycosylation.

Formulation: Lyophilized from sterile 20mM Tris, 500mM NaCl, pH 7.4.

Storage Instructions: Lyophilized Human IL9 protein, His Tag product should be stored desiccated below -18°C. Upon reconstitution, the protein should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it

is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

Usage notes: Always centrifuge tubes before opening. It is recommended to reconstitute the lyophilized Human IL9 protein, His Tag in sterile ddH_2O not less than 100µg/ml, which can then be further diluted to other aqueous solutions.

	Fig. SDS-PAGE analysis of Human IL-9 protein, His Tag.

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