PRODUCT INFORMATION

Target	IL9
Synonyms	Interleukin-9;IL-9;Cytokine P40;T-cell growth factor P40
Description	Recombinant Cynomolgus IL9 protein with C-terminal human Fc tag
Delivery	In Stock
Uniprot ID	A0A7N9IA33
Expression Host	HEK293
Tag	C-Human Fc Tag
Molecular Characterization	IL9(Arg19-Ile144) hFc(Glu99-Ala330)
Molecular Weight	The protein has a predicted molecular mass of 40.0 kDa after removal of the signal peptide.
Purity	The purity of the protein is greater than 95% as determined by SDS-PAGE and Coomassie blue staining.
Formulation & Reconstitution	Lyophilized from sterile PBS, pH 7.4. Normally 5 % – 8% trehalose is added as protectants before lyophilization. Please see Certificate of Analysis for specific instructions of reconstitution.
Storage&Shipping	Store at -20°C to -80°C for 12 months in lyophilized form. After reconstitution, if not intended for use within a month, aliquot and store at -80°C (Avoid repeated freezing and thawing). Lyophilized proteins are shipped at ambient temperature.
Background	Interleukin 9, also known as IL-9, is a cytokine (cell signaling 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 the differentiation of TH17 cells and Treg function. IL-9 predominantly produced by TH17 cells synergizes with TGF-β1 to differentiate naive 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 the 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 the role of IL-9 as a regulator of pathogenic versus protective mechanisms of immune responses.
Usage	Research use only
Conjugate	Unconjugated

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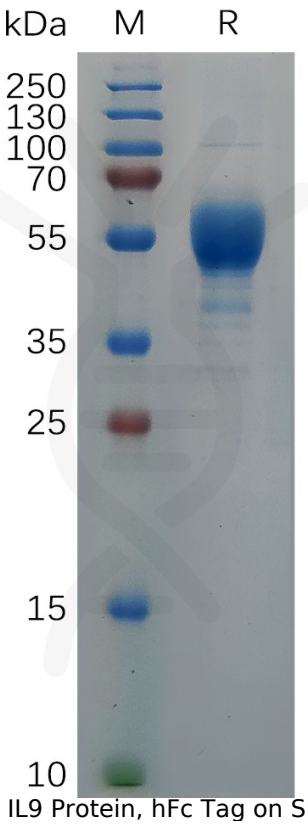


Figure 1.Cynomolgus IL9 Protein, hFc Tag on SDS-PAGE under reducing condition.

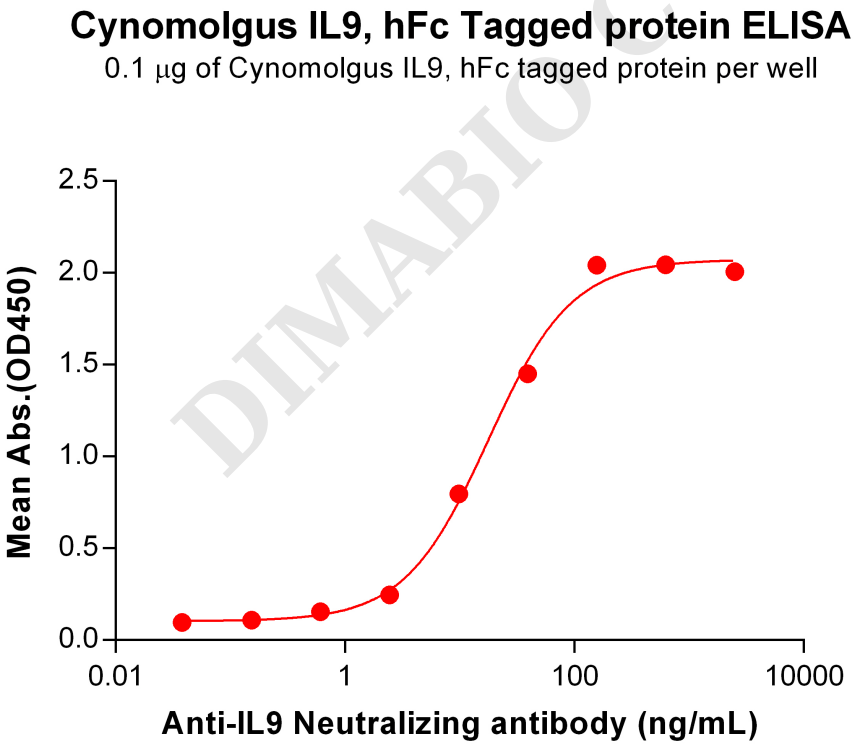


Figure 2. ELISA plate pre-coated by 1 μg/mL (100 μL/well) Cynomolgus IL9 Protein, hFc Tag (PME-C100003) can bind Anti-IL9 Neutralizing antibody (BME100122) in a linear range of 2.44–156.25 ng/mL.

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