

Store at
-20°C

#91974

Human IL-9 Recombinant Protein

10 µg

Cell Signaling
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orders@cellsignal.comEntrez-Gene ID #3578
UniProt ID #P15248

New 11/20

For Research Use Only. Not For Use In Diagnostic Procedures.

Background: Interleukin-9 (IL-9) is a pleiotropic cytokine best known as a T cell and mast cell growth factor (1,2). This T cell stimulator is a member of the common γ -chain-receptor cytokine family; other members include IL-2, IL-4, IL-7, IL-15, and IL-21 (1). IL-9 was first associated with the T helper 2 (T_H2) phenotype but is expressed by multiple other T_H cell subsets, including T_H9 cells, T_H17 cells, and regulatory T (T_{Reg}) cells (1-3). The effects of IL-9 are mediated through a heterotypic receptor complex consisting of IL-9 receptor alpha (IL-9R α) and the common γ -chain (3,4). Binding of IL-9 initiates signaling cascades that involve the cross-phosphorylation of Jak1 and Jak3, leading to the activation of Stat1, Stat3, and Stat5 (1-3).

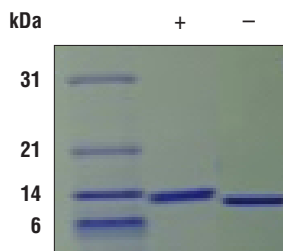
Molecular Weight: 14 kDa

Endotoxin: Endotoxin levels are ≤ 1 EU / 1 µg hIL-9.

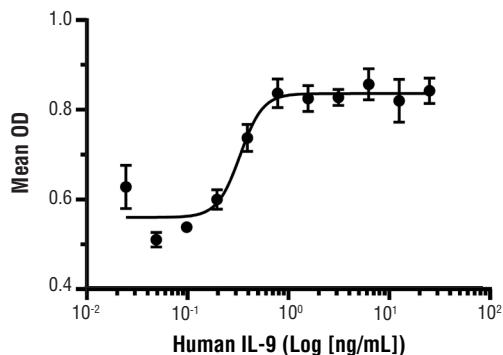
Purity: $\geq 95\%$ purity was determined by SDS-PAGE.

Source/Purification: Recombinant human IL-9 was expressed in *E. coli* and is supplied in a lyophilized form.

Bioactivity: The bioactivity of recombinant hIL-9 was determined in a M-07e cell proliferation assay. The ED_{50} of each lot is ≤ 2 ng/ml.



The purity of Human IL-9 Recombinant Protein was determined by SDS-PAGE of 1 µg reduced (+) and non-reduced (-) recombinant hIL-9 and staining with Coomassie Blue.



Serial dilutions of Human IL-9 Recombinant Protein were added to M-07e cells. Cell proliferation was measured and the linear portion of the curve was used to calculate the ED_{50} .

Storage: Human IL-9 Recombinant Protein is supplied as lyophilized material that is very stable at -20°C . It is recommended to reconstitute with sterile water at a concentration of 0.1 mg/ml which can be further diluted in aqueous solutions as needed. Addition of a carrier protein (0.1% HSA or BSA) is recommended for long-term storage.

Background References:

- (1) Noelle, R.J. and Nowak, E.C. (2010) *Nat Rev Immunol* 10, 683-7.
- (2) Goswami, R. and Kaplan, M.H. (2011) *J Immunol* 186, 3283-8.
- (3) Chakraborty, S. et al. (2019) *Int J Mol Sci* 20, 2113.
- (4) Renauld, J.C. et al. (1992) *Proc Natl Acad Sci U S A* 89, 5690-4.

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Applications: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide **Species Cross-Reactivity:** H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.