

Cytokines

Human Recombinant IL-9



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Interleukin 9

Catalog #	78085	10 µg
	78085.1	50 µg

Product Description

Interleukin 9 (IL-9) has pleiotropic functions in the immune system and signals through its specific IL-9 receptor (IL-9R) (Renauld et al.). IL-9/IL-9R signaling pathway mainly targets the downstream activation of JAK/STAT (janus kinase/signal transducer and activator of transcription) and subsequent phosphorylation cascades initiated by multiple kinases including IRS-PI3K-PKB (insulin receptor substrate, phosphatidylinositol 3-kinases, protein kinase-B) and ERK (Knoops & Renauld; Fontaine et al.). IL-9 has been shown to have a role in Th1/Th17-mediated inflammation and in regulatory T cell responses (Singh et al.; Goswami & Kaplan). IL-9/IL-9R signaling pathway represents a novel endogenous anti-apoptotic mechanism for cortical neurons (Fontaine et al.). IL-9 secreting T cells, termed Th9 cells, contribute to both effective immunity and immunopathological disease, and have been shown to have a role in the treatment of allergic and autoimmune disease (Kaplan et al.).

Product Information

Alternative Names:	Interleukin-9, Mast cell growth-enhancing activity, Mast cell growth factor, MCGF, MEA, p40 cytokine, TCGF-3, T-cell growth factor 3
Accession Number:	P15248
Amino Acid Sequence:	QGCPTLAGIL DINFLINKMQ EDPASKCHCS ANVTSCLCLG IPSDNCTRPC FSERLSQMTN TTMQTRYPLI FSRVKKSVEV LKNNKCPYFS CEQPCNQTTA GNALTFLKSL LEIFQKEKMR GMRGKI
Predicted Molecular Mass:	25 - 40 kDa
Species:	Human
Cross Reactivity:	Mouse
Formulation:	Lyophilized after dialysis against phosphate-buffered saline.
Source:	CHO

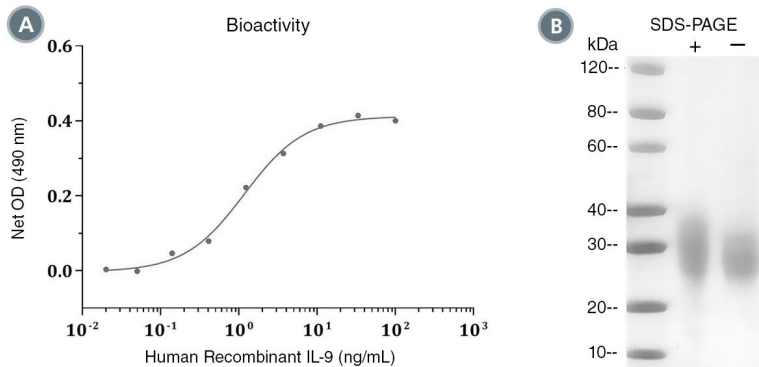
Specifications

Activity:	The specific activity is $\geq 1 \times 10^6$ units/mg ($EC_{50} \leq 1$ ng/mL) as determined by a cell proliferation assay of MO7e cells.
Purity:	$\geq 95\%$
Endotoxin Level:	Measured by kinetic limulus amoebocyte lysate (LAL) analysis and is ≤ 0.2 EU/µg protein.

Preparation and Storage

Storage:	Store at -80°C.
Stability:	Stable as supplied for 12 months from date of receipt.
Preparation:	Centrifuge vial before opening. Resuspend the product in sterile water or phosphate-buffered saline to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. Store at 2 - 8°C for up to 1 week or at -20°C to -80°C for up to 2 months. Avoid repeated freeze-thaw cycles.

Data



(A) The biological activity of Human Recombinant IL-9 was tested by its ability to promote the proliferation of MO7e cells. Cell proliferation was measured using a fluorometric assay method. The EC50 is defined as the effective concentration of the growth factor at which cell proliferation is at 50% of maximum. The EC50 in the example above is less than 1 ng/mL.

(B) 2 µg of Human Recombinant IL-9 was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant IL-9 has a predicted molecular mass of 25 - 40 kDa.

Related Products

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References

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- Renaud JC et al. (1992) Expression cloning of the murine and human interleukin 9 receptor cDNAs. *Proc Natl Acad Sci U S A* 89(12): 5690–4.
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