

General Information

Synonyms	Human IL9; IL9; IL-9; interleukin 9; Cytokine P40; HP40
Accession #	P15248
Source	Human embryonic kidney cell, HEK293-derived human IL9 protein
	Gln19-Ile144
Predicted Molecular weight	14.1 kDa

Components and Storage

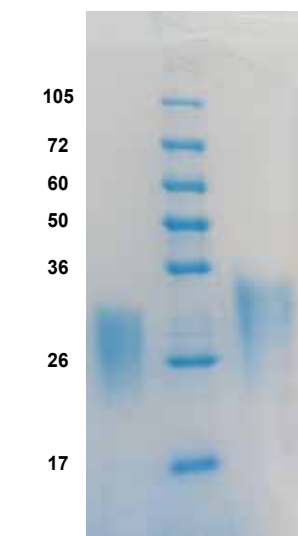
Formulation	Solution protein. Dissolved in sterile PBS buffer to a concentration of 0.2 mg/mL. This solution can be diluted into other aqueous buffers. Centrifuge the vial prior to opening.
Storage and Stability	Avoid repeated freeze-thaw cycles. It is recommended that the protein be aliquoted for optimal storage. 12 months from date of receipt, -20 to -70 °C as supplied.
Shipping	Shipping with dry ice.

Quality

Purity	> 95%, determined by SDS-PAGE.
Endotoxin Level	<0.010 EU per 1 ug of the protein by the LAL method.
Activity	Measured in a cell proliferation assay using MO7e human megakaryocytic leukemic cells. The EC50 for this effect is 100-200 pg/mL.

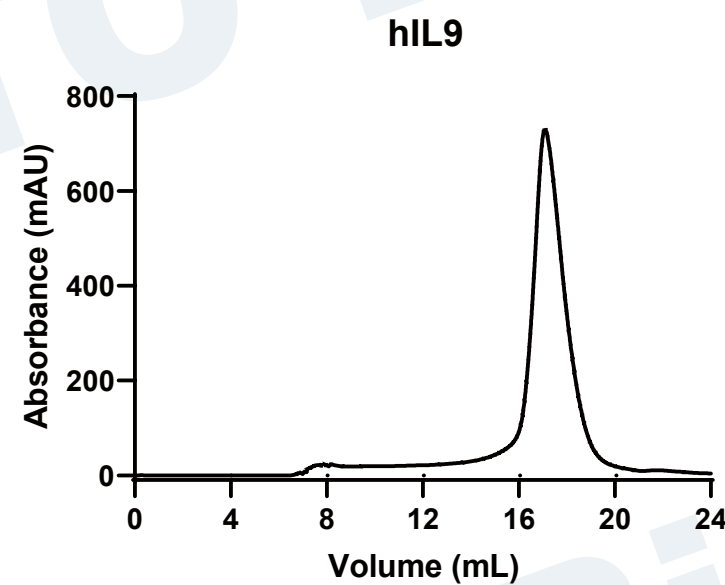
SDS-PAGE

kDa NR R



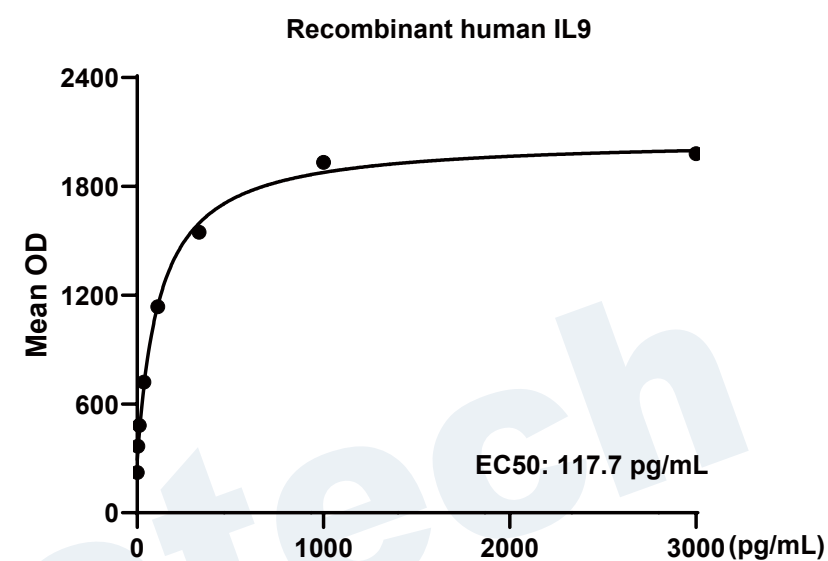
2 ug/lane protein was resolved with SDS-PAGE under non-reducing (NR) and reducing (R) conditions and visualized by Coomassie Blue staining.

Gel filtration



Size-exclusion chromatography of recombinant human IL9 protein (280 nm absorbance)

Bioactivity



Recombinant human IL9 (Catalog # HF-1009) stimulates cell proliferation of the TF-1 human erythroleukemic cells.

Background

Interleukin-9 (IL-9), also known as P40 and MEA (mast cell growth-enhancing activity), is a 30-40 kDa glycosylated member of a cytokine family that includes Interleukins-2, -4, -7, -15, and -21. These proteins utilize heteromeric receptors containing the Common gamma chain (gamma c) in addition to ligand-specific subunits. IL-9 interacts selectively with IL-9 R which then associates with gamma c to form the functional receptor complex. IL-9 contributes to allergic inflammation, autoimmunity-induced inflammation, parasite clearance from the GI tract, and Treg-mediated immune suppression (1, 2). It enhances the expansion and recruitment of mast cells and eosinophils as well as the production of IgE and Th2 cytokines (3-6). It is required for anaphylactic responses to ingested allergens but not to systemic allergens (7). IL-9 plays multiple roles in the development and function of subsets within the CD4+ T cell lineage (8). It is expressed by activated Th9, Th17, Treg, and Th2 cells (3, 9-12). IL-9 acts as an autocrine growth and activation factor for Th17, Treg, and mast cells (3, 11, 13).

Reference

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