

DESCRIPTION

Source *Spodoptera frugiperda*, Sf 21 (baculovirus)-derived mouse IL-9 protein
Gln19-Pro144
Accession # P15247

N-terminal Sequence Analysis No results obtained, sequencing might be blocked: Gln19 is predicted

Predicted Molecular Mass 14.2 kDa

SPECIFICATIONS

SDS-PAGE Multiple bands between 16-25 kDa, reducing conditions

Activity Measured in a cell proliferation assay using MO7e human megakaryocytic leukemic cells. Avanzi, G. *et al.* (1988) Br. J. Haematol. **69**:359. The ED₅₀ for this effect is 0.500-5.00 ng/mL.

Endotoxin Level <0.10 EU per 1 µg of the protein by the LAL method.

Purity >97%, by SDS-PAGE under reducing conditions and visualized by silver stain.

Formulation Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 100 µg/mL in sterile PBS.

Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

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 (γc) in addition to ligand-specific subunits. IL-9 interacts selectively with IL-9 R which then associates with γc 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). It also can inhibit immune responses by enhancing the suppressive properties of Treg and by recruiting immune-suppressive mast cells to sites of inflammation (11, 12). Mature mouse IL-9 shares 57% and 74% amino acid sequence identity with human and rat IL-9, respectively (14).

References:

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