

**DESCRIPTION**

<b>Source</b>	Human embryonic kidney cell, HEK293-derived mouse IL-9 protein Gln19-Pro144 Accession # P15247.1
<b>N-terminal Sequence Analysis</b>	Gln19 (Blocked), reveal Ala20 after deblocking
<b>Predicted Molecular Mass</b>	14 kDa

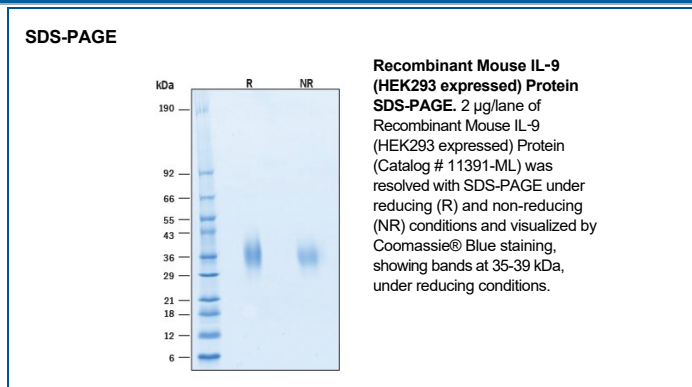
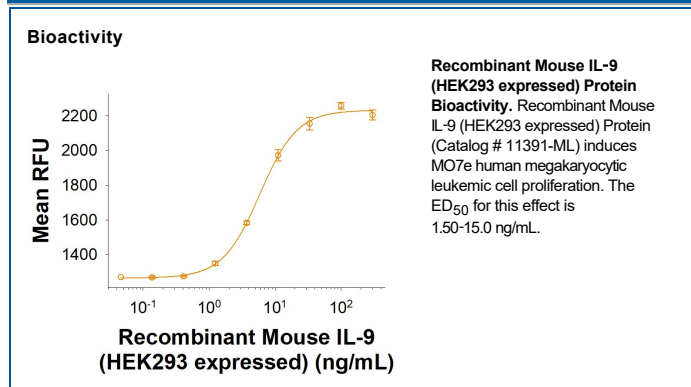
**SPECIFICATIONS**

<b>SDS-PAGE</b>	35-39 kDa, under reducing conditions.
<b>Activity</b>	Measured in a cell proliferation assay using MO7e human megakaryocytic leukemic cells. Avanzi, G. <i>et al.</i> (1988) Br. J. Haematol. <b>69</b> :359. The ED <sub>50</sub> for this effect is 1.50-15.0 ng/mL.
<b>Endotoxin Level</b>	<0.10 EU per 1 µg of the protein by the LAL method.
<b>Purity</b>	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

**PREPARATION AND STORAGE**

<b>Reconstitution</b>	Reconstitute the 10 µg size at 100 µg/mL in PBS. Reconstitute all other sizes at 500 µg/mL in PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<p><b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 3 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

**DATA**



## 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<sup>+</sup> 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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