

## IL-9 Protein, Mouse (HEK293, Fc)

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|-------------------|--|
| Cat. No.:         | HY-P78319  |
| Synonyms:         | Interleukin-9; IL-9; Cytokine P40; T-cell growth factor P40; HP40; P40 |
| Species:          | Mouse  |
| Source:           | HEK293   |
| Accession:        | P15247 (Q19-I144)  |
| Gene ID:          | 16198  |
| Molecular Weight: | 50-70 kDa  |

### PROPERTIES

|                     |  |
|---------------------|--|
| Appearance          | Solution.  |
| Formulation         | Supplied as a 0.22 µm filtered solution of PBS, pH 7.4.  |
| Endotoxin Level     | <1 EU/µg, determined by LAL method.  |
| Reconstitution      | N/A.   |
| Storage & Stability | Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles. |
| Shipping            | Shipping with dry ice.   |

### DESCRIPTION

#### Background

IL-9, a multifunctional cytokine primarily secreted by T-helper 2 lymphocytes and also by mast cells or NKT cells, assumes crucial roles in the immune response against parasites. Beyond its anti-parasitic function, IL-9 influences intestinal epithelial permeability and adaptive immunity. It plays a pivotal role in inducing the differentiation of specific T-cell subsets, such as IL-17-producing helper T-cells (TH17), and promotes the proliferation and differentiation of mast cells. Mechanistically, IL-9 exerts its diverse biological effects through a receptor comprised of the IL9R subunit and the signal transducing subunit IL2RG. Stimulation of this receptor leads to rapid activation of JAK1 and JAK3 kinase activities, initiating STAT1, STAT3, and STAT5-mediated transcriptional programs. The induction of differentiation genes appears to be mediated by STAT1 alone, while the protection of cells from apoptosis depends on the concerted actions of STAT3 and STAT5. IL-9 interacts directly with IL9R and IL2RG, orchestrating a sophisticated network of interactions to modulate immune responses and cellular processes.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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