10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

IL-9

Catalog # PVGS1543

Specification

IL-9 - Product Information

Primary Accession P15247

Species
Mouse

Sequence
Gln19-Pro144

Purity
> 95% as analyzed by SDS-PAGE

Endotoxin Level
< 0.2 EU/ µg of protein by LAL method

Biological Activity
ED₅₀ < 10.0 ng/ml, measured in a cell proliferation assay using MO7e cells.

Expression System
HEK 293

Formulation **Lyophilized from a 0.2 µm filtered solution in PBS.**

Reconstitution
It is recommended that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute the lyophilized powder in ddH_2O or PBS up to 100 µg/ml.

Storage & Stability
Upon receiving, this product remains stable for up to 6 months at -70°C or -20°C. Upon reconstitution, the product should be stable for up to 1 week at 4°C or up to 3 months at -20°C. Avoid repeated freeze-thaw cycles.

IL-9 - Additional Information

Gene ID 16198

Other Names
Interleukin-9, IL-9, Cytokine P40, T-cell growth factor P40, Il9

Target Background
Interleukin 9, also known as IL9, is a cytokine (cell signalling molecule) belonging to the group of interleukins. The protein encoded by this gene is a cytokine produced by T-cells and specifically by CD4⁺ helper cells that acts as a regulator of a variety of hematopoietic cells. This cytokine stimulates cell proliferation and prevents apoptosis. It functions through the interleukin-9 receptor (IL9R), which activates different signal transducer and activator (STAT) proteins and thus connects this cytokine to various biological processes. The gene encoding this cytokine has been

identified as a candidate gene for asthma. Genetic studies on a mouse model of asthma demonstrated that this cytokine is a determining factor in the pathogenesis of bronchial hyperresponsiveness.

IL-9 - Protein Information

Name Il9

Function
Multifunctional cytokine secreted mainly by T-helper 2 lymphocytes and also mast cells or NKT cells that plays important roles in the immune response against parasites (PubMed:11070175, PubMed:19433802). Affects intestinal epithelial permeability and adaptive immunity (PubMed:12704113). In addition, induces the differentiation of specific T-cell subsets such as IL-17 producing helper T-cells (TH17) and also proliferation and differentiation of mast cells (PubMed:11070175, PubMed:19433802). Mechanistically, exerts its biological effects through a receptor composed of IL9R subunit and a signal transducing subunit IL2RG (PubMed:2145361, PubMed:7718508). Receptor stimulation results in the rapid activation of JAK1 and JAK3 kinase activities leading to STAT1, STAT3 and STAT5-mediated transcriptional programs (PubMed:10464327). Induction of differentiation genes seems to be mediated by STAT1 alone, while protection of cells from apoptosis depends on STAT3 and STAT5 (PubMed:10464327).

Cellular Location
Secreted.

IL-9 - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

IL-9 - Images