

DESCRIPTION

Source *E. coli*-derived
His23-Ser140, with an N-terminal Met
Accession # P07750

N-terminal Sequence Analysis His23

Predicted Molecular Mass 14 kDa

SPECIFICATIONS

Activity Measured in a cell proliferation assay using HT-2 mouse T cells.
The ED₅₀ for this effect is typically 0.3-1.5 ng/mL.

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

Purity >97%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.

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.

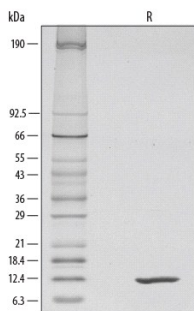
Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

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.

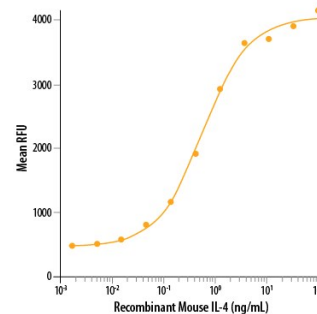
DATA

SDS-PAGE



1 µg/lane of Recombinant Mouse IL-4 was resolved with SDS-PAGE under reducing (R) conditions and visualized by silver staining, showing a single band at 12 kDa.

Bioactivity



Recombinant Mouse IL-4 (Catalog # 404-ML/CF) stimulates cell proliferation of the HT-2 mouse T cell line. The ED₅₀ for this effect is typically 0.3-1.5 ng/mL.

BACKGROUND

Interleukin-4 (IL-4), also known as B cell-stimulatory factor-1, is a monomeric, approximately 13 kDa-18 kDa Th2 cytokine that shows pleiotropic effects during immune responses (1-4). It is a glycosylated polypeptide that contains three intrachain disulfide bridges and adopts a bundled four α -helix structure (5). Mouse IL-4 is synthesized with a 24 aa signal sequence. Mature mouse IL-4 shares 39%, 39%, and 59% aa sequence identity with bovine, human, and rat IL-4, respectively. Human, mouse, and rat IL-4 are species-specific in their activities (6-8). IL-4 exerts its effects through two receptor complexes (9, 10). The type I receptor, which is expressed on hematopoietic cells, is a heterodimer of the ligand binding IL-4 R α and the common γ chain (a shared subunit of the receptors for IL-2, -7, -9, -15, and -21). The type II receptor on nonhematopoietic cells consists of IL-4 R α and IL-13 R α 1. The type II receptor also transduces IL-13 mediated signals. IL-4 is primarily expressed by Th2-biased CD4⁺ T cells, mast cells, basophils, and eosinophils (1, 2). It promotes cell proliferation, survival, and immunoglobulin class switch to IgG1 and IgE in mouse B cells, acquisition of the Th2 phenotype by naïve CD4⁺ T cells, priming and chemotaxis of mast cells, eosinophils, and basophils, and the proliferation and activation of epithelial cells (11 - 14). IL-4 plays a dominant role in the development of allergic inflammation and asthma (13, 15).

References:

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