

General Information

Synonyms	B cell growth factor 1; BCDF; BCGF1; BCGF-1; binetrakin; BSF1; BSF-1; IL4; IL-4
Accession #	P07750
Source	Human embryonic kidney cell, HEK293-derived Mouse IL-4 protein
	His23-Ser140
Predicted Molecular weight	13.4 kDa

Components and Storage

Formulation	Solution protein.
	Dissolved in PBS buffer to a concentration of 0.2 mg/mL.
	This solution can be diluted into other aqueous buffers. Centrifuge the vial prior to opening.

Storage and Stability	Avoid repeated freeze-thaw cycles.
	It is recommended that the protein be aliquoted for optimal storage.
	12 months from date of receipt, -20 to -70 °C as supplied.

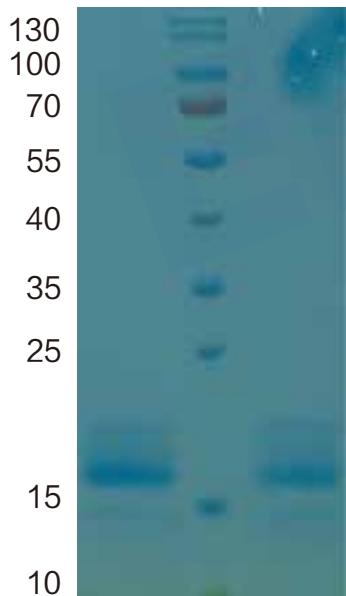
Shipping	Shipping with dry ice.
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Quality

Purity	> 95%, determined by SDS-PAGE
Endotoxin Level	<0.010 EU per 1 ug of the protein by the LAL method
Activity	Measured in a cell proliferation assay using HT-2 mouse T cells.
	The EC50 for this effect is 0.2-1.0 ng/mL.

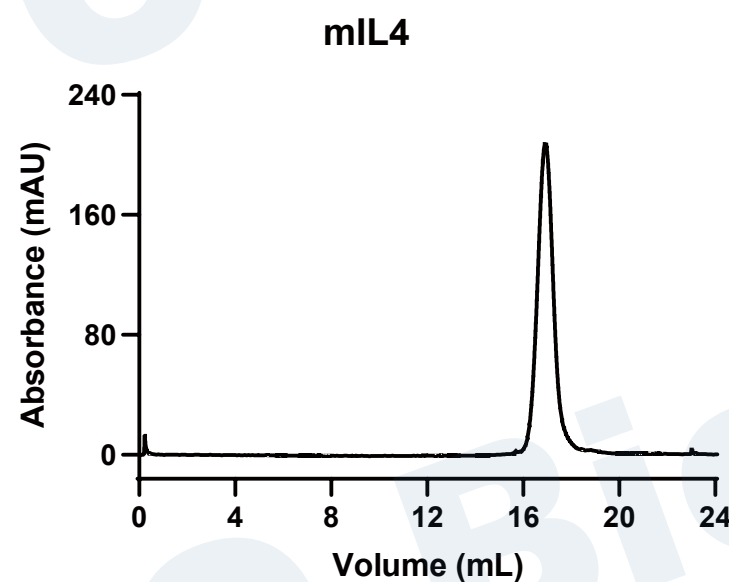
SDS-PAGE

kDa NR R



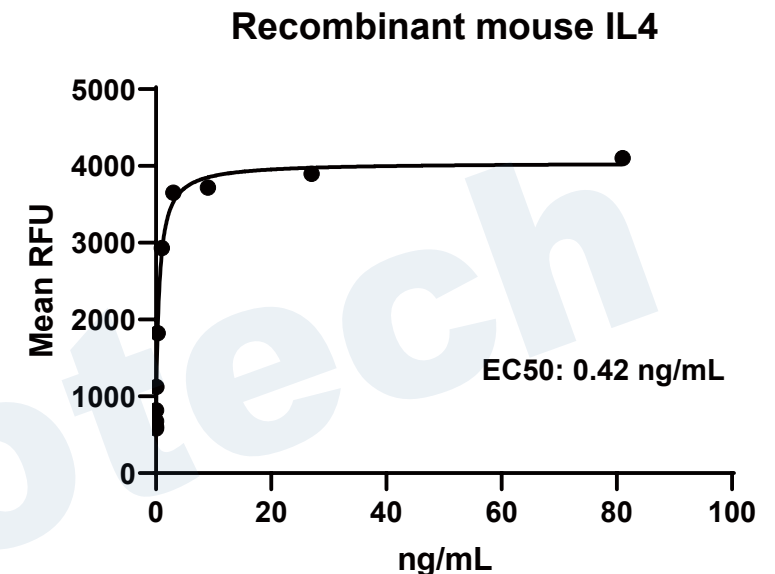
4 ug/lane protein was resolved with SDS-PAGE under non-reducing (NR) and reducing (R) conditions and visualized by Coomassie Blue staining.

Gel filtration



Size-exclusion chromatography of recombinant mouse IL4 protein (280 nm absorbance)

Bioactivity



Recombinant mouse IL4 (Catalog # MF-1004) stimulates cell proliferation of HT-2 mouse T cells.

Background

Interleukin-4 (IL-4), also known as B cell-stimulatory factor-1, is a monomeric, approximately Th2 cytokine that shows pleiotropic effects during immune responses (1-4). 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 (5-7). IL-4 exerts its effects through two receptor complexes (8, 9). The type I receptor, which is expressed on hematopoietic cells, is a heterodimer of the ligand binding IL-4 R alpha and the common gamma chain. The type II receptor on nonhematopoietic cells consists of IL-4R alpha and IL-13 R alpha 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 naive CD4+ T cells, priming and chemotaxis of mast cells, eosinophils, and basophils, and the proliferation and activation of epithelial cells (10 - 13). IL-4 plays a dominant role in the development of allergic inflammation and asthma (12, 14).

Reference

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