Recombinant Mouse IL-4, Tag Free

Cat number: KGM1004
Store at -80℃ for 12 months

For Research Use Only（科研专用）

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 Moleucular weight	13.4 kDa

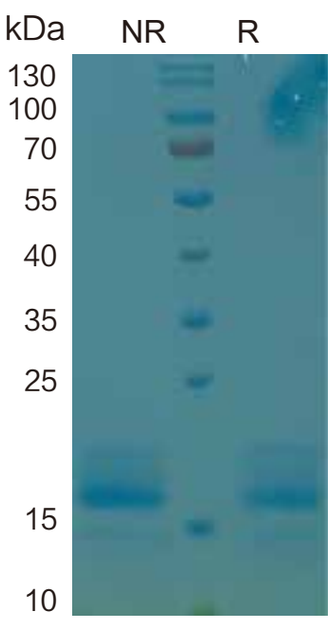
Components and Storage

Formulation	Solution protein.
	Dissolved in sterile PBS buffer , see tube wall for specific concentration.
	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, -80 °C as supplied.
Shipping	Shipping with dry ice.

Quality

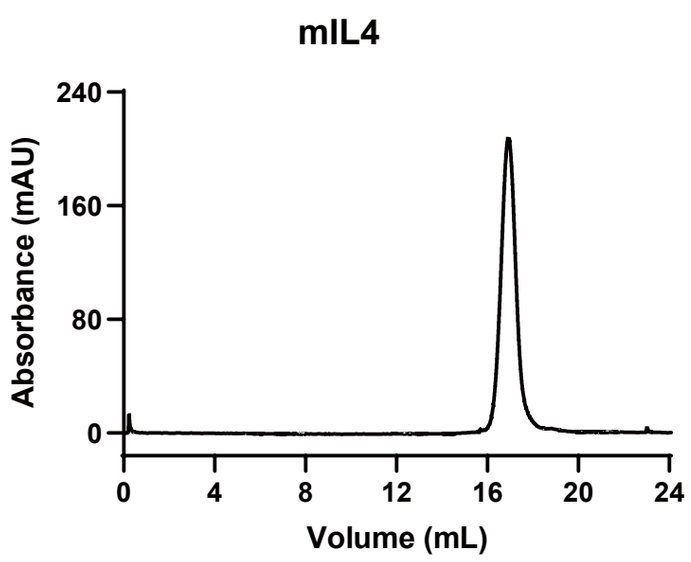
Purity	> 95%, determined by SDS-PAGE
Endotoxin Level	<0.010 EU per 1 ug of the protein by the LAL method
Activity	Measured in a cell proliferation assay using HT-2 mouse T cells.
	The EC50 for this effect is 0.2-1.0 ng/mL.

SDS-PAGE



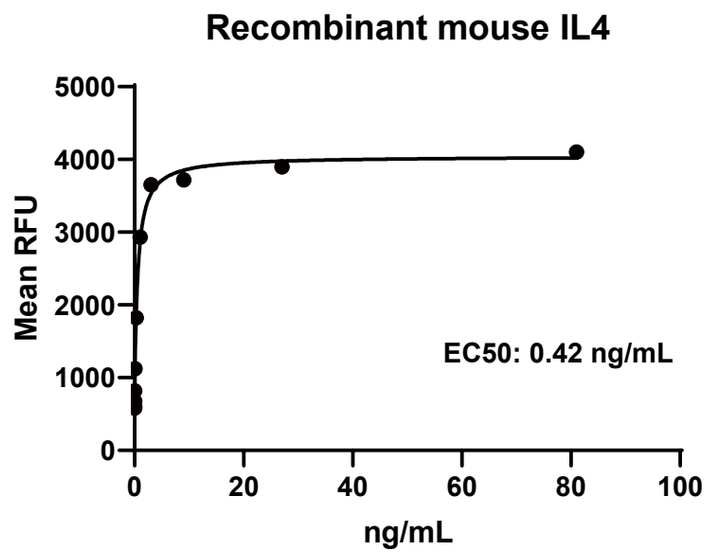
4 ug/lane protein was resolved with SDS-PAGE under non-reducing (NR) and reducing (R) conditions and visualized by Coomassie Blue staining.

Gel filtration



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

Bioactivity



Recombinant mouse IL4 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

1. Benczik, M. and S.L. Gaffen (2004) Immunol. Invest. 33:109.
2. Chomarat, P. and J. Banchereau (1998) Int. Rev. Immunol. 17:1.
3. Lee, F. et al. (1986) Proc. Natl. Acad. Sci. 83:2061.
4. Noma, Y. et al. (1986) Nature 319:640.
5. Ramirez, F. et al. (1988) J. Immunol. Meth. 221:141.
6. Leitenberg, D. and T.L. Feldbush (1988) Cell. Immunol. 111:451.
7. Mosman, T.R. et al. (1987) J. Immunol. 138:1813.
8. Mueller, T.D. et al. (2002) Biochim. Biophys. Acta 1592:237.
9. Nelms, K. et al. (1999) Annu. Rev. Immunol. 17:701.
10. Paludan, S.R. (1998) Scand. J. Immunol. 48:459.
11. Corthay, A. (2006) Scand. J. Immunol. 64:93.
12. Ryan, J.J. et al. (2007) Crit. Rev. Immunol. 27:15.
13. Grone, A. (2002) Vet. Immunol. Immunopathol. 88:1.
14. Rosenberg, H.F. et al. (2007) J. Allergy Clin. Immunol. 119:1303.