

General Information

Synonyms	Human IL4; hIL-4, recombinant IL4, interleukin 4, BCGF1 Protein
Accession #	P05112
Source	Human embryonic kidney cell, HEK293-derived human IL4 protein
	His25-Ser153
Predicted Molecular weight	15 kDa

Components and Storage

Formulation	Solution protein. Dissolved in sterile PBS buffer.
	This solution can be diluted into other aqueous buffers. Centrifuge the vial prior to opening.

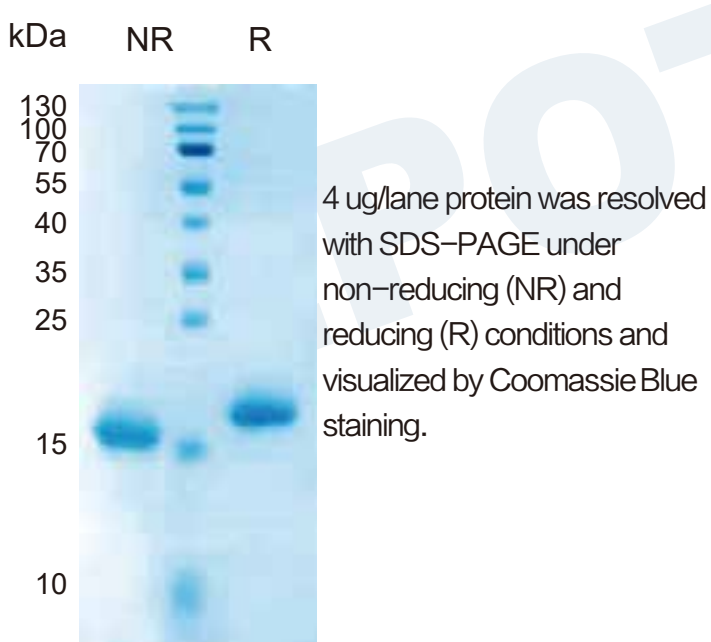
Storage and Stability	Avoid repeated freeze-thaw cycles. It is recommended that the protein be aliquoted for optimal storage. 12 months from date of receipt, -20 to -70 °C as supplied.
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Shipping	Shipping with dry ice.
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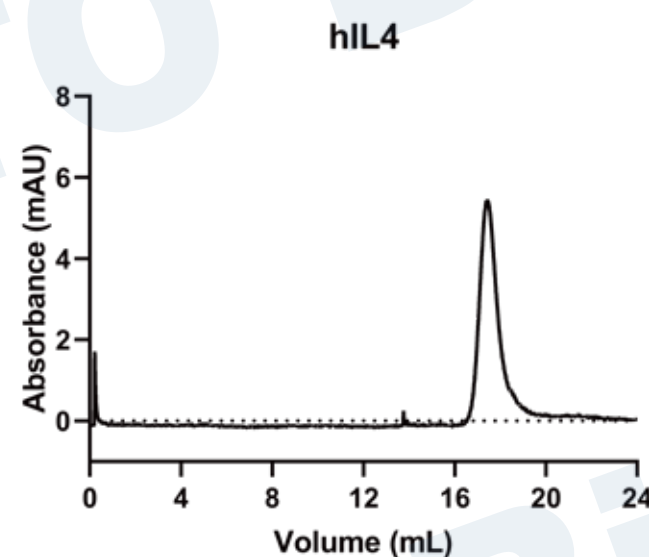
Quality

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 TF-1 human erythroleukemic cells. The EC50 for this effect is 0.02-0.1 ng/mL.

SDS-PAGE

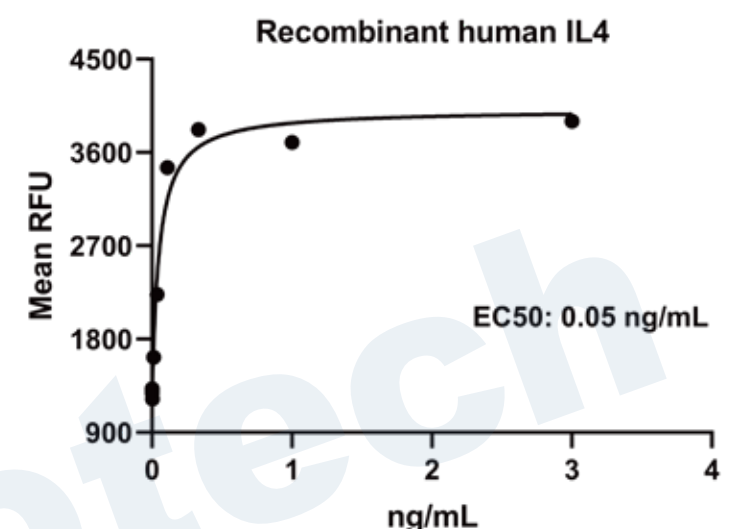


Gel filtration



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

Bioactivity



Recombinant human IL4 (Catalog # HF-1004) stimulates cell proliferation of the TF-1 human erythroleukemic cells.

Background

Interleukin-4 (IL-4), also known as B cell-stimulatory factor-1, is a secreted protein that belongs to the IL-4 / IL-13 family (1-3). It is a glycosylated polypeptide that contains three intrachain disulfide bridges and adopts a bundled four α -helix structure (4). Mature human IL-4 shares 55%, 39% and 43% aa sequence identity with bovine, mouse, and rat IL-4, respectively. Human, mouse, and rat IL-4 are species-specific in their activities (5-7). IL-4 exerts its effect 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 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 IgG4 and IgE in human 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).

Reference

- Benczik, M. and S.L. Gaffen (2004) Immunol. Invest. 33:109.
- Chomarat, P. and J. Banchereau (1998) Int. Rev. Immunol. 17:1.
- Yokota, T. et al. (1986) Proc. Natl. Acad. Sci. 83:5894.
- Redfield, C. et al. (1991) Biochemistry 30:11029.
- Ramirez, F. et al. (1988) J. Immunol. Meth. 221:141.
- Leitenberg, D. and T.L. Feldbush (1988) Cell. Immunol. 111:451.
- Mosman, T.R. et al. (1987) J. Immunol. 138:1813.
- Mueller, T.D. et al. (2002) Biochim. Biophys. Acta 1592:237.
- Nelms, K. et al. (1999) Annu. Rev. Immunol. 17:701.
- Paludan, S.R. (1998) Scand. J. Immunol. 48:459.
- Corthay, A. (2006) Scand. J. Immunol. 64:93.
- Ryan, J.J. et al. (2007) Crit. Rev. Immunol. 27:15.
- Grone, A. (2002) Vet. Immunol. Immunopathol. 88:1.

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