

Recombinant Human IL-4 ACF

Catalog #	Product	Size
95114	Recombinant Human IL-4 ACF	20 µg

Intended Use

This product is for research or further manufacturing use only. Not for injection or diagnostic procedures.

Recombinant human IL-4 is a carrier-free, animal component-free, bioactive recombinant cytokine intended for use in cell culture applications. IL-4 is involved in the regulation of different B and T cell responses and activities including proliferation, gene expression and survival.

Product Description

Synonyms: B cell Stimulating Factor, BSF-1, BCDF, BCGF.

Accession Number: P05112

Background: IL-4 is a pleiotropic cytokine produced mainly by a subpopulation of activated T cells called T helper 2 (Th2). It is also produced by T helper 1 (Th1) cells and mast cells. Biological activities of IL-4 are mediated by specific receptors expressed in a variety of cell types (helper T cells, endothelial cells, mast cells and macrophages). IL-4 has a wide range of effects on both hematopoietic cells and non-hematopoietic cells, such as smooth muscle and epithelial cells. Human IL-4 share 50% sequence homology with murine IL-4, but its activities are species-specific; human IL-4 shows no activity on murine cells (1-4). Recombinant human IL-4 is a non-glycosylated protein, containing 130 amino acids, with a molecular weight of 15 kDa.

Specifications

Formulation: Recombinant human IL-4 is lyophilized with no additives.

Protein Purity: ≥95% determined by HPLC, reducing and non reducing SDS-PAGE analysis, UV spectroscopy.

Bioactivity: ED₅₀ is determined by a dose dependent proliferation of human TF1 cells (5). The ED₅₀ is typically less than 0.5 ng/mL.

Quality and Grade: Carrier-free and animal component-free.

Quality Assurance

All quality control test results are reported on a lot specific Certificate of Analysis (which is available at www.irvinesci.com or upon request.

Shipping

This product is shipped at ambient temperature. Immediately upon receipt, store at the recommended temperature below.

Storage Instructions and Stability

Upon receipt, store the lyophilized protein at or below -10°C in a manual defrost freezer for up to 12 months from date of receipt. Unopened vials are stable for one year from the date of receipt when stored as recommended.

Reconstituted material should be apportioned in working volumes and will be stable for 1 month when stored at 4°C and 3 months when stored at -20°C to -80°C.

Precautions and Warnings

This product is for research or further manufacturing use only. It is not for use in diagnostic procedures. The safety and efficacy of this product in diagnostic or other clinical procedures has not been established.

Directions for Use

1. Reconstitution

Centrifuge vials before opening. When reconstituting the product, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution. It is recommended to reconstitute the lyophilized product with sterile water, which can be further diluted into other aqueous solutions.

2. Optimum Concentration

The optimum concentration varies depending on cell type and culture conditions. Working concentration should be determined for each specific application.

Related Products

Catalog #	Product	Size
91211	PRIME-XV HEMATOPOIETIC CELL BASAL XSFM	500mL
91146	PRIME-XV DENDRITIC CELL MATURATION CDM	500 mL

References

1. Gadani SP, Cronk JC, Norris GT, Kipnis J (2012) IL-4 in the brain: a cytokine to remember. *J. Immunol.* 189(9): 4213-4219.
2. Prussin C, Yin Y, Upadhyaya B (2010) Th2 heterogeneity: Does function follow form? *J. Allergy Clin. Immunol.* 126(6): 1094-1098.
3. Paul WE, Zhu J (2010) How are Th2-type immune responses initiated and amplified? *Nat. Rev. Immunol.* 10(4): 225-235.
4. Wang HW, Joyce JA (2010) Alternative activation of tumor-associated macrophages by IL-4, priming for post tumoral functions. *Cell Cycle* 9 (24): 4824-4835.
5. Kitamura T, Tange T, Terasawa T, Chiba S, Kuwaki T, Miyagawa K, Piao YF, Miyazono K, Urabe A, Takaku F (1989) Establishment and characterization of a unique human cell line that proliferates dependently on GM-CSF, IL-3, or erythropoietin. *Journal of Cellular Physiology* 140(2): 323-334.

Technical

CONTACT US

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WEBSITE RESOURCES

Visit the website at www.irvinesci.com for technical resources and information including:

- Safety Data Sheets (SDS)
- Certificate of Analysis (CoA) (when available)
- FAQs
- Product literature
- Complete list of offices and contact information by country

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