

Recombinant Human IL-4 (ELISA Std.)

Catalog# / Size	571809 / 4 pack
Regulatory Status	RUO
Other Names	Interleukin-4, Ia inducing factor (IaIF), B-cell stimulating factor-1 (BSF-1), Hodgkin's cell growth factor (HCGF), Mast cell growth factor-2 (MCGF-2), Macrophage fusion factor (MFF), T cell growth factor-2 (TCGF-2)

Description IL-4 is a pleiotropic cytokine that is produced by activated T cells mast cells and basophils. IL-4 elicits many different biological responses, but has two dominant functions. The first is regulating differentiation of naive CD4⁺ T cell to the Th2 type. Th2 cells produce IL-4, IL-5, IL-10 and IL-13, which tend to favor a humoral immune response while suppressing a cell-mediated immune response controlled by Th1 cells. The second is regulating IgE and IgG1 production by B cells. Recombinant human IL-4 is a 14.9 kD protein containing 129 amino acids.

Product Details

Source	<i>E. coli</i> , approximately 15 kD
Formulation	Lyophilized in sterile-filtered PBS, pH 7.2, containing 1% BSA, 0.09% sodium azide, and protease inhibitors.
Endotoxin Level	Endotoxin level is less than 0.1 ng per µg (1EU/µg).
Concentration	Lot-specific (to obtain lot-specific concentration, please enter the lot number in our Concentration and Expiration Lookup or Certificate of Analysis online tools.)
Storage & Handling	Upon receipt, store unopened vials between 2°C and 8°C immediately and use within 12 months from date of receipt. Prior to use, reconstitute the lyophilized powder with 0.2 ml of PBS containing a carrier protein (e.g., 1% BSA, protease free), pH7.4. Re-cap vial, vortex. Allow the reconstituted standard to sit at room temperature for 15 minutes, vortex again to mix completely. The reconstituted standard stock solution can be aliquoted into polypropylene vials and stored at -70°C for up to one month. Do not re-use diluted standards. Use a manual defrost freezer and avoid repeated freeze thaw cycles.
Application	ELISA
Recommended Usage	Each lot of this protein is quality control tested by ELISA assay . For use as an ELISA standard, a standard curve comprised of doubling dilutions from 500 pg/ml to 4 pg/ml is suggested. It is recommended that the reagent be titrated for optimal performance for each application.
Application Notes	This IL-4 protein is useful as a standard for a human IL-4 sandwich ELISA, using unlabeled 8D4-8 antibody (catalog #500702) for capture and biotinylated MP4-25D2 antibody (catalog #500804) for detection.
Product Citations	1. Serre K, <i>et al.</i> 2011. PLoS One. 6:e20731. PubMed

Antigen Details

Structure	Cytokine, 14.9 kD
Bioactivity	Differentiation of naive CD4 ⁺ T cells to the T _H 2 type, proliferation/differentiation of activated B cells, expression of class II MHC antigens, and of low affinity IgE receptors in resting B cells
Cell Sources	Mast cells, T cells, bone marrow stromal cells
Cell Targets	B cells, T cells, monocytes, endothelial cells, fibroblasts
Receptors	Heterodimer IL-4Rα (CD124); γ-subunit (CD132) in common with IL-2R, IL-7R, IL-13R, IL-15R

Biology Area	Stem Cells, Immunology, Cell Biology
Molecular Family	Cytokines/Chemokines
Antigen References	<ol style="list-style-type: none">1. Fitzgerald K, <i>et al.</i> Eds. 2001. The Cytokine FactsBook. Academic Press San Diego.2. Boulay J, <i>et al.</i> 1992. <i>Curr. Opin. Immunol.</i> 4:294.3. Dullens H, <i>et al.</i> 1991. <i>In vivo</i> 5:567.4. Paul W. 1991. <i>Blood</i> 77:1859.
Regulation	Upregulated by IL-2, platelet activating factor; downregulated by TGF- β
Gene ID	3565

Related Protocols

[Sandwich ELISA Protocol](#)

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