

## Recombinant Human IL-4 (carrier-free)

**Catalog # / Size:** 574002 / 10 µg  
574004 / 25 µg  
574006 / 100 µg  
574008 / 500 µg

**Source:** Human IL-4, amino acids His25-Ser153 (Accession# NM\_000589) was expressed in E.coli.

**Molecular Mass:** The 129 amino acid recombinant protein has a predicted molecular mass of approximately 14963 Da. The DTT-reduced protein migrates at approximately 13 kD and non-reduced protein migrates at approximately 12 kD by SDS-PAGE. The N-terminal amino acid is Met.

**Purity:** Purity is >95%, as determined by Coomassie stained SDS-PAGE.

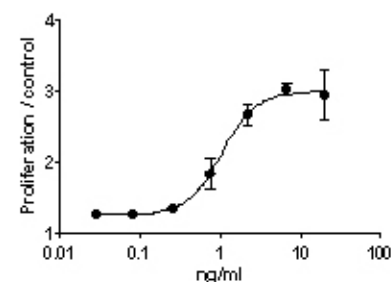
**Endotoxin Level:** Less than 0.01ng per µg cytokine as determined by the LAL method

**Activity:** ED<sub>50</sub>=0.2 - 0.6 ng/ml, corresponding to a specific activity of 1.65 - 5 x 10<sup>6</sup> units/mg, as determined by the dose dependent stimulation of TF-1 cell proliferation.

**Preparation:** For maximum results, quick spin vial prior to opening. Stock solutions should be prepared at no less than 10 µg/mL in sterile buffer containing carrier protein such as 1% BSA or HSA or 10% FBS.

**Formulation:** The protein was 0.22 µm filtered in 10mM NaH<sub>2</sub>PO<sub>4</sub>, 150mM NaCl, pH7.2.

**Storage:** Unopened vial can be stored at 4°C for three months, at -20°C for six months, or at -70°C for one year. After dilution, the cytokine could be storage at 4°C for one month and up to 3 months from -20°C to -70°C. Avoid repeated freeze/thaw cycles.



TF-1 cell proliferation induced by human IL-4

## Applications:

**Applications:** Bioassay

**Description:** IL-4 is the primary cytokine implicated in the development of Th2-mediated responses, which is associated with allergy and asthma. The Type I receptor comprises IL-4R $\alpha$  and the common gamma-chain ( $\gamma$ c), which is also shared by the cytokines IL-2, -7, -9, -15 and -21 and is present in hematopoietic cells. IL-4 can use the type II complex, comprising IL-4R $\alpha$  and IL-13R $\alpha$ 1, which is present in non-hematopoietic cells. This second receptor complex is a functional receptor for IL-13, which shares approximately 25% homology with IL-4. The type I receptor complex can be formed only by IL-4 and is active in Th2 development. In contrast, the type II receptor complex formed by either IL-4 or IL-13 is most active during airway hypersensitivity and mucus secretion and is not found in T cells.

- Antigen References:**
1. Swain SL, *et al.* 1990. *J. Immunol.* 145:3796.
  2. Hsieh CS, *et al.* 1992. *P. Natl. Acad. Sci. USA* 89:6065.
  3. Allison-Lynn A, *et al.* 2006. *J. Immunol.* 176:7456.
  4. Kato A, *et al.* 2007. *J. Immunol.* 179:1080.
  5. LaPorte SL, *et al.* 2008. *Cell* 132:259.
  6. Martinez FO, *et al.* 2009. *Annu. Rev. Immunol.* 27:451.



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