
Recombinant Human Interleukin-4 (IL4)

(Cat. No.: C050)

Background:

IL-4 is a pleiotropic cytokine that regulates diverse T and B cell responses including cell proliferation, survival and gene expression. Produced by mast cells, T cells and bone marrow stromal cells, IL-4 regulates the differentiation of naive CD4+ T cells into helper Th2 cells, characterized by their cytokine-secretion profile that includes secretion of IL-4, IL-5, IL-6, IL-10, and IL-13, which favor a humoral immune response. Another dominant function of IL-4 is the regulation of immunoglobulin class switching to the IgG1 and IgE isotypes. Excessive IL-4 production by Th2 cells has been associated with elevated IgE production and allergy.

Description:

Recombinant Human IL-4 produced in *E. coli* is a non-glycosylated, polypeptide chain containing 130 amino acids and having a molecular mass of 15.1 kDa.

Quality Control:

Biological Activity: The ED50 as determined by the dose-dependant stimulation of TF-1 cells is less than 2ng/ml, corresponding to a Specific Activity of 5.0×10^6 IU/mg.

Purity: Greater than 98.0% as determined by:

(a) Analysis by RP-HPLC.

(b) Analysis by reducing and non-reducing SDS-PAGE Silver Stained

gel. **Amino-Acid Sequence:** The sequence of the first five N-terminal amino acids was determined and was found to be Met-His-Lys-Cys-Asp.

Endotoxin: Less than 0.1ng/ μ g (1 IEU/ μ g) of rHuIL-4.

Formulation: Lyophilized from a concentrated (1mg/ml) solution with PBS.

Storage: Lyophilized rHuIL-4 although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution rHuIL-4 should be stored at 4°C between 2-7 days and for future use below -18°C. For long-term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

Please avoid freeze-thaw cycles. For laboratory in vitro research use only.

Reconstitution: It is recommended to reconstitute the lyophilized rHuIL-4 in sterile 1 8M Ω -cm H₂O not less than 1 00 μ g/ml, which can then be further diluted to other aqueous solutions.