Interleukin-4 Rat E. coli

Product Data Sheet

Type: Recombinant
Source: E. coli
Species: Rat
Other names: IL-4, B-cell stimulatory factor 1, Lymphocyte stimulatory factor 1, Binetrakin, Pitrakinra, B cell differentiation factor gamma, B cell growth factor

Cat. No.:

RBG30004005	(5 µg)
RBG30004020	(20 µg)
RBG30004100	(100 µg)

Description

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. Recombinant Rat IL-4 is a 14.0 kDa globular protein containing 126 amino acid residues.

Introduction to the Molecule

IL-4 (15 to 19 kDa) is produced by a variety of T cell thymocyte populations, as well as some mast cell precursors that are non-T or B cell types. Il-4 plays an important role in the activation of resting B-cells and in the subsequent proliferation and differentiation of B-cells. IL-4 is essential for IgE synthesis in vitro and its involvement with allergic diseases has been investigated. Il-4 has anti-inflammatory effects.

Research topic

Animal studies, Cytokines and chemokines and related molecules

Amino Acid Sequence

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MHGCNDSPLR EIINTLNQVT EKGTPCTEMF VPDVLTATRN TTENELICRA SRVLRKFYFP RDVPPCLKNK SGVLGELRKL
CRGVSGLNSL RSCTVNESTL TTLKDFLESL KSILRGKYLQ SCTSMS
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Source

E. coli

Purity

98%

Biological Activity

Determined by its ability to stimulate proliferation of TF-1 cells. The expected ED_{50} is 200-400 ng/ml.

Endotoxin

Endotoxin level is <0.1 ng/µg of protein (<1EU/µg).

Reconstitution

Centrifuge the vial prior to opening. Reconstitute in water to a concentration of 0.1-1.0 mg/ml. Do not vortex. For extended storage, it is recommended to further dilute in a buffer containing a carrier protein (example 0.1% BSA) and store in working aliquots at -20°C to -80°C.

Storage, Stability/Shelf Life

-20°C

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