Data sheet

Jena Bioscience

IL-4
Interleukin 4, B-cell stimulatory factor
human, recombinant, *E. coli*

Cat. No.	Amount
PR-463	10 μg

For *in vitro* use only
Quality guaranteed for 12 months
Store at -20°C

Avoid freeze / thaw cycles

Form
Lyophilized.

Solubility
It is recommended to reconstitute the lyophilized IL-4 in bidest H_2O not less than
100 μg/ml, which can then be further diluted to other aqueous solutions. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

Activity
ED_{50}: < 0.2 ng/ml, corresponding to a specific activity of 5 x 10^5 IU/mg, determined by the dosedependent stimulation of TF-1 cells.

Purity
$\geq$ 98% by SDS-PAGE, RP-HPLC, and FPLC.

Endotoxin
Less than 0.1 ng/μg (IEU/μg) of IL-4.

Description
The anti-inflammatory cytokine Interleukin-4 is involved in the regulation of inflammatory responses by promoting the differentiation of naïve T-cells to T helper type 2 (Th2) cells.
A key anti-inflammatory action of IL-4 results from its ability to inhibit the release of pro-inflammatory cytokines by innate immune cells and to upregulate the synthesis of IL-1 receptor antagonist.
IL-4 has been demonstrated to be a potent cofactor for B and T lymphocyte proliferation and differentiation.

Recombinant human IL-4 produced in *E. coli* is a single, non-glycosylated form of human IL-4 polypeptide chain containing 130 amino acids and having a molecular mass of 15 kDa.

IL-4 is purified by proprietary chromatographic techniques.

Selected References:

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Whitehead *et al.* (2002) Phase II trial of recombinant human interleukin-4 in patients with advanced renal cell carcinoma: a southwest oncology group study. *J. Immunother.* **25**:352.
Ekerfelt C. and Ernerudh J. (2002) Detection of spontaneous and antigen-induced human interleukin-4 responses in vitro: comparison of ELISPOT, a novel ELISA and real-time RT-PCR. *J. Immunol. Methods.* **260**:*55*.
Casolaro *et al.* (2000) Identification and characterization of a critical CP2-binding element in the human interleukin-4 promoter. *J. Biol. Chem.* **275**:36605.
Davis *et al.* (2000) A phase I and pharmacokinetic study of subcutaneously-administered recombinant human interleukin-4 (rhuIL-4) in patients with advanced cancer. *Growth Factors.* **17**:287.
Okada *et al.* (2000) Characterization and transduction of a retroviral vector encoding human interleukin-4 and herpes simplex virusthymidine kinase for glioma tumor vaccine therapy. *Cancer Gene Ther.* **7**:486.