Datasheet

Cat. No. P1022

IL-4, murine recombinant

Information

Gene ID	16189
Accession #	P07750
Alternate Names	B-cell IgG differentiation factor, B-cell growth factor 1, BSF-1, IGG1 induction factor, Lymphocyte stimulatory factor 1
Source	*Escherichia coli.*
M.Wt	Approximately 13.5 kDa, a single non-glycosylated polypeptide chain containing 121 amino acids.
AA Sequence	MHIHGCDKNH LREIIGILNE VTGEGTPCTE MDVPNVLTAT KNTTESELVC RASKVLRIFY LKHGKTPCLK KNSSVLMELQ RLFRAFRCLD SSISCTMNES KSTSLKDFLE SLKSIMQMDY S
Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. - 12 months from date of receipt, -20 to -70 °C as supplied. - 1 month, 2 to 8 °C under sterile conditions after reconstitution. - 3 months, -20 to -70 °C under sterile conditions after reconstitution.
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS, pH 7.4.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1 % BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at ≤ -20 °C. Further dilutions should be made in appropriate buffered solutions.
Biological Activity	Fully biologically active when compared to standard. The ED_{50} as determined by the dose-dependant prolifiration of Murine HT-2 cells is less then 2 ng/ml, corresponding to a Specific Activity of > 5×10^5 IU/mg.
Shipping Condition	Gel pack.
Handling	Centrifuge the vial prior to opening.
Usage	For Research Use Only! Not to be used in humans.

Components and Storage

Components	5 μg	100 μg	500 μg
IL-4, murine recombinant	5 μg	100 μg	500 μg

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- 12 months from date of receipt, -20 to -70 °C as supplied.
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Quality Control

Purity	> 97 % by SDS-PAGE and HPLC analyses.
Endotoxin	Less than 1 EU/μg of rMuIL-4 as determined by LAL method.

Description

Interleukin-4 (IL-4) is a pleiotropic cytokine that induces differentiation of naive helper T cells (Th0 cells) to Th2 cells. It is produced by mast cells, activated T cells and bone marrow stromal cells. It has many biological roles, including the stimulation of activated B-cell and T-cell proliferation, and the differentiation of CD4+ T-cells into Th2 cells. In addition, IL-4 enhances both secretion and cell surface expression of IgE and IgG1 and also regulates the expression of the low affinity Fc receptor for IgE (CD23) on both lymphocytes and monocytes. The mouse IL-4 has a compact, globular fold, stabilised by 3 disulphide bonds and contains 121 amino acids residues which is a single non-glycosylated polypeptide. The human IL-4 shares about 40% aa sequence identity with mouse/rat IL-4 and they are species-specific in their activities.

Reference

1. Sokol CL, Barton GM, Farr AG, et al. 2008. Nat Immunol. 9:310-8.

2. Hershey GK, Friedrich MF, Esswein LA, et al. 1997. N Engl J Med. 337:1720-5.

3. Yokota T, Otsuka T, Mosmann T, et al. 1986. Proc Natl Acad Sci U S A. 83:5894-8.

4. Eder A, Krafft-Czepa H, Krammer PH. 1988. Nucleic Acids Res. 16:772.

5. Walter MR, Cook WJ, Zhao BG, et al. 1992. J Biol Chem. 267:20371-6

APExBIO Technology
www.apexbt.com
7505 Fannin street, Suite 410, Houston, TX 77054.
Tel: +1-832-696-8203 | Fax: +1-832-641-3177 | Email: info@apexbt.com