

Datasheet Cat. No. P1187



Recombinant Rat IL-4



Information

Gene ID	287287		
Accession #	P20096		
Alternate Names	B-cell IGG Differentiation Factor, B-cell Growth Gactor 1, BSF-1, Lymphocyte Stimulatory Factor 1		
Source	Escherichia coli.		
M.Wt	Approximately 14.0 kDa, a single non-glycosylated polypeptide chain containing 125 amino acids.		
AA Sequence	HGCNDSPLRE IINTLNQVTE KGTPCTEMFV PDVLTATRNT TENELICRAS RVLRKFYFPR DVPPCLKNKS GVLGELRKLC RGVSGLNSLR SCTVNESTLT TLKDFLESLK SILRGKYLQS CTSMS		
Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.		
	Use a manual defrost freezer and avoid repeated freeze-thaw cycles.		
Stability & Storage	- 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 μ m filtered concentrated solution in PBS, pH 7.4, 5% trehalose.		
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 \leq -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 a cell proliferation assay using rat splenocytes is less than 1.0 ng/ml, corresponding to a specific activity of > 1.0×10^6 IU/mg.		
Shipping Condition	Gel pack.		
Handling	Centrifuge the vial prior to opening.		
	For Research Use Only! Not to be used in humans.		

Components and Storage

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Components	5 µg	100 µg	500 µg
Recombinant Rat IL-4	5 µg	100 µg	500 µg

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- 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.

Quality Control	(Origin	al Que
Purity	> 95 % by SDS-PAGE and HPLC analyses.	Provinter and
Endotoxin	Less than 1 EU/ μ g of rRtIL-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 and 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. IL-4 can enhance 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 rat IL-4 shares about 40 % \sim 45 % a.a. sequence identity with human, mouse, rhesus macaque 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.

