

IL-3 Protein, Rat, Recombinant (His)

General Information

Synonyms:	interleukin 3
Protein Construction:	A DNA sequence encoding the rat IL3 (NP_113701.1) (Met 1-Cys 169) was fused with a polyhistidine tag at the C-terminus. Predicted N terminal: Ile 27
Species:	Rat
Expression Host:	Baculovirus Insect Cells
Accession:	P97688
Molecular Weight:	17.5 kDa (predicted); 24 kDa (reducing conditions)

QC Testing

Biological Activity:	Measured in a cell proliferation assay using FDC-P1 cells. The ED50 for this effect is typically 2-8 ng/mL.
Purity:	> 95 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/µg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 µm filter, containing 20 mM Tris, 500 mM NaCl, pH 7.0, 10% gly. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

IL3 (interleukin 3), also known as IL-3, is a potent growth-promoting cytokine that belongs to the IL-3 family. IL3/IL-3 also belongs to the group of interleukins. Interleukins are produced by a wide variety of body cells. The function of the immune system depends in a large part on interleukins, and rare deficiencies of a number of them have been described, all featuring autoimmune diseases or immune deficiency. The majority of interleukins are synthesized by helper CD4+ T lymphocytes, as well as through monocytes, macrophages, and endothelial cells.

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They promote the development and differentiation of T, B, and hematopoietic cells. IL3/IL-3 is capable of supporting the proliferation of a broad range of hematopoietic cell types. It is involved in a variety of cell activities such as cell growth, differentiation, and apoptosis. IL3/IL-3 has been shown to also possess neurotrophic activity, and it may be associated with neurologic disorders.

Reference

Meyer CG, et al.. (2011) IL3 variant on chromosomal region 5q31-33 and protection from recurrent malaria attacks. Hum Mol Genet. 20(6):1173-81.

Zambrano A, et al.(2010) IL-3 controls tau modifications and protects cortical neurons from neurodegeneration. Curr Alzheimer Res. 7(7):615-24.

Dentelli P, et al.. (2011) IL-3 is a novel target to interfere with tumor vasculature. Oncogene. 30(50):4930-40.

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