Data Sheet (Cat.No.TMPY-02554)

TargetMol

IL-5 Protein, Mouse, Recombinant (His)

General Information

Synonyms:	interleukin 5;Il-5
Protein Construction:	A DNA sequence encoding the mouse IL5 (P04401) (Met 1-Gly 133) was expressed, with a C-terminal polyhistidine tag. Predicted N terminal: Met 21
Species:	Mouse
Expression Host:	Baculovirus Insect Cells
Accession:	P04401
Molecular Weight:	14.5 kDa (predicted); 18 kDa (reducing conditions)

QC Testing

Biological Activity:	Measured in a cell proliferation assay using TF-1 human erythroleukemic cells. The ED50 for this effect is typically 0.1-0.5 ng/mL.
Purity:	> 90 % 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:

Reconstituted with sterile deionized water to 0.25 mg/mL. Reconstitution conditions may vary depending on the lot.

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

Interleukin 5 (IL-5) is a member of the interleukin family with a length of 115 amino acids. Interleukins are a group of cytokines (secreted proteins/signaling molecules) that were first seen to be expressed by white blood cells (leukocytes) and has been found in a wide variety of body cells. Interleukin 5 or IL-5 is produced by T helper-2 cells and mast cells. It helps to stimulate B cell growth and increase immunoglobulin secretion and is considered a key mediator in eosinophil activation. Interleukin 5 (IL-5) has long been associated with several allergic diseases,

including allergic rhinitis and asthma. Growth in the number of circulating, airway tissue, and induced sputum eosinophils have been observed in patients with these diseases. IL-5 also had something with the terminally differentiated granulocyte eosinophils. IL-5 was originally found as an eosinophil colony-stimulating factor. It has been proved to be a major regulator of eosinophil accumulation in tissues and can modulate eosinophil behavior at every stage from maturation to survival.

Reference

Milburn MV,et al.(1993) A novel dimer configuration revealed by the crystal structure at 2.4 A resolution of human interleukin-5. Nature. 363(6425): 172-176.

Lee JS,et al.(1989) The IL-4 and IL-5 genes are closely linked and are part of a cytokine gene cluster on mouse chromosome 11. Somat Cell Mol Genet. 15(2): 143-152.

Woodcock JM,et al.(1994) Three residues in the common beta chain of the human GM-CSF, IL-3 and IL-5 receptors are essential for GM-CSF and IL-5 but not IL-3 high affinity binding and interact with Glu21 of GM-CSF. EMBO J. 13 (21): 5176-85.

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