

## IL-13 Protein, Mouse, Recombinant (E. coli)

### General Information

Synonyms:	interleukin 13
Protein Construction:	Ser26-Phe131
Species:	Mouse
Expression Host:	E. coli
Accession:	P20109
Molecular Weight:	11.7 kDa (Predicted); 9-14 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 1.93 ng/ml.
Purity:	> 95% as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/ $\mu$ g of the protein as determined by the LAL method.
Formulation:	Lyophilized from a 0.2 $\mu$ m filtered solution of 20 mM Histidine-HCl, 8% Trehalose, 4% Mannitol, 50 mM NaCl, 0.05% Tween 80, pH 6.0.

### Preparation and Storage

#### Reconstitution:

Reconstitute the lyophilized protein in sterile deionized water. The product concentration should not be less than 100  $\mu$ g/mL. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

#### Stability & Storage:

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

Mouse interleukin 13 (mIL-13) is a pleiotropic cytokine produced by activated Th2 cells. IL-13 induces B cell proliferation and immunoglobulin production. It contains a four helical bundle with two internal disulfide bonds. Mouse IL13 shares 58% sequence identity with human protein and exhibits cross-species activity. IL13 signals via receptor IL13R (type2, IL4R) and activates STAT-6. IL13 initially binds IL-13R $\alpha$ 1 with low affinity and triggers association of IL4R $\alpha$ , generating a high affinity heterodimeric receptor IL13R and eliciting downstream signals. IL13 also binds IL-13R $\alpha$ 2 with high affinity, which plays a role in a negative feedback system of IL13 signaling. IL13

is an important mediator of allergic inflammation and disease.

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Tel:781-999-4286 E\_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481