

## Recombinant Rat IL-13

### Information

<b>Gene ID</b>	116553
<b>Accession #</b>	P42203
<b>Alternate Names</b>	T-cell Activation Protein P600
<b>Source</b>	<i>Escherichia coli</i> .
<b>M.Wt</b>	Approximately 12.2 kDa, a single non-glycosylated polypeptide chain containing 111 amino acids.
<b>AA Sequence</b>	MPVRRSTSP VALRELIEEL SNITQDQKTS LCNSSMWWSV DLTAGGFCAA LESLTNISSC NAIHRTQRIL NGLCNQKASD VASSPPDTKI EVAQFISKLL NYSKQLFRYG H
<b>Appearance</b>	Sterile Filtered White lyophilized (freeze-dried) powder.
<b>Stability &amp; Storage</b>	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.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered concentrated solution in PBS, pH 7.4.
<b>Reconstitution</b>	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.
<b>Biological Activity</b>	Fully biologically active when compared to standard. The ED <sub>50</sub> as determined by a cell proliferation assay using human TF-1 cells is less than 4 ng/ml, corresponding to a specific activity of > 2.5 × 10 <sup>5</sup> IU/mg.
<b>Shipping Condition</b>	Gel pack.
<b>Handling</b>	Centrifuge the vial prior to opening.
<b>Usage</b>	For Research Use Only! Not to be used in humans.

### Components and Storage

Components	10 µg	100 µg	500 µg
Recombinant Rat IL-13	10 µg	100 µg	500 µg

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## Quality Control

Purity	> 97 % by SDS-PAGE and HPLC analyses.
Endotoxin	Less than 1 EU/μg of rRtIL-13 as determined by LAL method.

## Description

Interleukin-13 (IL-13) is expressed by the IL13 gene and secreted by many cell types, especially T helper type 2 (Th2) cells. The high resolution structure of IL-13 reported to be a monomer with two internal disulfide bonds that contribute to a bundled four  $\alpha$ -helix configuration. Targeted deletion of IL-13 in mice resulted in impaired Th2 cell development and indicated an important role for IL-13 in the expulsion of gastrointestinal parasites. IL-13 exerts anti-inflammatory effects on monocytes and macrophages and it inhibits the expression of inflammatory cytokines such as IL-1 $\beta$ , TNF- $\alpha$ , IL-6 and IL-8. IL-13 has also been shown to enhance B cell proliferation and to induce isotype switching resulting in increased production of IgE. Mature rat IL-13 shares 59 %, 75 %, and 60 % amino acid sequence identity with human, mouse, and rhesus IL-13, respectively.

## Reference

1. Schmutz J, Martin J, Terry A, et al. 2004. Nature, 431: 268-74.
2. Wynn TA. 2003. Annu Rev Immunol, 21: 425-56.
3. Moy FJ, Diblasio E, Wilhelm J, et al. 2001. J Mol Biol, 310: 219-30.
4. Lakkis FG, Cruet EN, Nassar GM, et al. 1997. Biochem Biophys Res Commun, 235: 529-32.

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