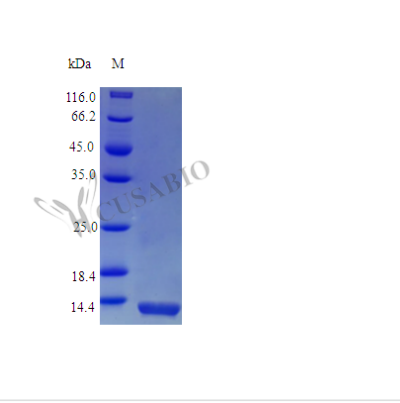
Recombinant Mouse Interleukin-13 protein (Il13), partial (Active)

Product Code	CSB-AP003371MO
Abbreviation	Recombinant Mouse Il13 protein, partial (Active)
Uniprot No.	P20109
Storage Buffer	0.2 μm filtered PBS, pH 7.4 ,lyophilized
Product Type	Interleukins
Immunogen Species	Mus musculus (Mouse)
Biological Activity	Fully biologically active when compared to standard. The ED50 as determined by a cell proliferation assay using human TF-1 cells is less than 4 ng/ml, corresponding to a specific activity of >2.5x10^5 IU/mg.
Purity	>97% as determined by SDS-PAGE.
Sequence	M+PVPRSVSLP LTLKELIEEL SNITQDQTPL CNGSMVWSVD LAAGGFCVAL DSLTNISNCN AIYRTQRILH GLCNRKAPTT VSSLPDTKIE VAHFITKLLS YTKQLFRHGP F
Research Area	Immunology
Source	E.Coli
Target Names	Il13
Expression Region	M+22-131aa
Tag Info	Tag-Free
Mol. Weight	12.3 kDa
Protein Length	Partial
PubMed ID	2521353

Image



Description

Recombinant Mouse Interleukin-13 protein (Il13) is expressed in E. coli, covering the amino acid region M+22-131aa and is tag-free. This partial protein

features a purity greater than 97% as determined by SDS-PAGE and maintains an endotoxin level of less than 1.0 EU/μg using the LAL method. It is fully biologically active, with an ED50 of less than 4 ng/ml in a cell proliferation assay with human TF-1 cells, indicating a specific activity greater than 2.5 × 10^5 IU/mg.

Interleukin-13 (IL-13) appears to be a key cytokine in immune response modulation. The protein plays what seems to be a critical role in regulating inflammation and tissue remodeling processes. IL-13 likely influences various signaling pathways that are associated with immune cell differentiation and activation, which may explain why it has become such an important target in immunological research. For scientists studying allergic responses and other immune-related conditions, understanding how IL-13 functions appears essential.

Potential Applications

Note: The applications listed below are based on what we know about this protein's biological functions, published research, and experience from experts in the field. However, we haven't fully tested all of these applications ourselves yet. We'd recommend running some preliminary tests first to make sure they work for your specific research goals.

1. Cell Proliferation and Viability Assays

This recombinant mouse IL-13 protein works well for stimulating cell proliferation in responsive cell lines, particularly when researchers want to dig into cytokine signaling pathways. With its demonstrated biological activity showing an ED50 of less than 4 ng/ml in TF-1 cells, it offers a dependable tool for dose-response studies. Scientists can harness this protein to investigate IL-13-mediated cellular responses - things like proliferation kinetics and the downstream signaling cascades that follow. The high purity (>97%) combined with low endotoxin levels makes it particularly suitable for sensitive cell culture experiments where even minor contamination might throw off results.

2. Cytokine Receptor Binding Studies

The biologically active mouse IL-13 protein serves as an effective ligand in receptor binding assays, especially when the goal is studying IL-13 receptor interactions and binding kinetics. Scientists often turn to this protein for competitive binding experiments or surface plasmon resonance studies that help characterize how receptors and ligands interact. Since the protein is tag-free, binding studies likely reflect what actually happens with native protein-receptor interactions - no worrying about fusion tags interfering with the process. These studies may help reveal species-specific differences in IL-13 receptor binding when compared to human IL-13.

3. Antibody Development and Validation

This recombinant protein works as an antigen for generating mouse IL-13-specific antibodies or for validating antibodies that already exist in research

applications. The high purity and well-defined sequence (M+22-131aa) make it nearly ideal as a standard for testing antibody specificity and examining cross-reactivity. Researchers often reach for this protein when developing ELISAs, validating Western blots, or setting up immunoprecipitation experiments. The confirmed biological activity suggests that antibodies developed against this protein should recognize the functionally relevant form of IL-13.

4. Protein-Protein Interaction Studies

The recombinant mouse IL-13 proves useful in pull-down assays and co-immunoprecipitation experiments designed to identify and characterize protein interactions within IL-13 signaling networks. Since its biological activity confirms proper protein folding, it appears well-suited for studying interactions with signaling intermediates and regulatory proteins. Scientists can examine how IL-13 forms complexes with its receptors and associated signaling molecules. The low endotoxin content helps ensure that any observed interactions are specific to IL-13 rather than artifacts from bacterial contamination.

5. Comparative Cytokine Function Studies

This mouse IL-13 protein opens up possibilities for comparative studies between mouse and human IL-13 functions in cross-species research models. Researchers can pair it with human IL-13 to investigate what may be species-specific differences in cytokine activity and receptor selectivity. The defined expression region and biological activity data provide a standardized tool for such comparative analyses. These studies might inform how findings from mouse models translate to human biology and help validate whether murine IL-13 research truly applies to human systems.

Endotoxin	Less than 1.0 EU/μg as determined by LAL method.
Shelf Life	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.