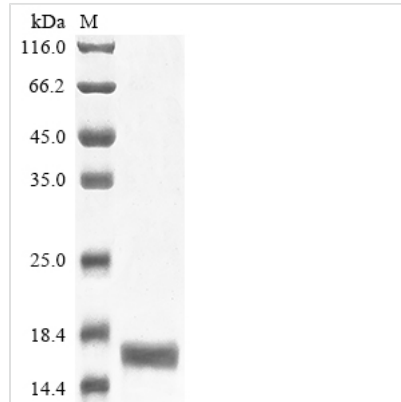




Recombinant Mouse Serum amyloid A-1 protein (Saa1)

Product Code	CSB-EP020656MOa0
Abbreviation	Recombinant Mouse Saa1 protein
Storage	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.
Uniprot No.	P05366
Form	Liquid or Lyophilized powder
Storage Buffer	If the delivery form is liquid, the default storage buffer is Tris/PBS-based buffer, 5%-50% glycerol. If the delivery form is lyophilized powder, the buffer before lyophilization is Tris/PBS-based buffer, 6% Trehalose.
Product Type	Recombinant Proteins
Immunogen Species	Mus musculus (Mouse)
Purity	Greater than 85% as determined by SDS-PAGE.
Sequence	GFFSFVHEAFQGAGDMWRAYTDMKEANWKNSDKYFHARGNYDAAQRGPGG VWAAEKISDGREAFQEFFGRGHEDTIADQEANRHGRSGKDPNYYRPPGLPDK Y
Research Area	Cardiovascular
Source	E.coli
Target Names	Saa1
Expression Region	20-122aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 6xHis-tagged
Mol. Weight	17 kDa
Protein Length	Full Length of Mature Protein
Image	



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

Recombinant Mouse Serum amyloid A-1 protein (Saa1) gets produced in *E. coli* and includes the full length of the mature protein, spanning amino acids 20 to 122. The protein features an N-terminal 6xHis-tag designed to help with purification and detection. SDS-PAGE analysis shows purity levels above 85%, which appears to make it suitable for various research applications.

Serum amyloid A-1 protein likely plays a significant role in the acute phase response, getting involved in lipid metabolism and immune function regulation. It's a key component in chronic inflammation studies. Researchers often examine it in the context of amyloid fibril formation. This protein seems essential for understanding inflammatory processes and how the body responds to injury or infection.

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. In Vitro Protein-Protein Interaction Studies

This recombinant mouse Saa1 protein can investigate binding interactions with potential cellular receptors, co-factors, or other serum proteins in controlled laboratory environments. The N-terminal 6xHis tag helps with immobilization on nickel-coated surfaces or beads for pull-down assays to identify binding partners. High purity levels (>85%) may ensure reliable results in biochemical binding studies and surface plasmon resonance experiments. Such studies could help clarify the molecular mechanisms underlying Saa1 function in acute phase responses.

2. Antibody Development and Validation

The purified recombinant Saa1 protein works as an antigen for generating mouse Saa1-specific antibodies in research settings. Researchers can use the protein to immunize rabbits or other suitable host animals to produce polyclonal antibodies. It also serves as a screening antigen for monoclonal antibody



development. The 6xHis tag allows for easy purification and immobilization in ELISA-based antibody screening and characterization assays. These antibodies would likely prove valuable as research tools for studying Saa1 expression and localization in mouse models of inflammation and disease.

3. Structural and Biophysical Characterization

This recombinant protein provides material for investigating the structural properties of mouse Saa1 through various biophysical techniques. These include circular dichroism spectroscopy, dynamic light scattering, and analytical ultracentrifugation. The mature protein region (20-122aa) represents the biologically relevant form, making it suitable for studying protein folding, stability, and aggregation properties. High purity levels support reliable structural analysis and comparison with other serum amyloid A family members across different species.

4. In Vitro Functional Assays

Researchers can use the recombinant Saa1 protein in cell culture-based assays to study its effects on various cell types relevant to inflammatory responses. This protein allows investigation of cellular uptake mechanisms, cytokine induction, or cell signaling pathway activation in macrophages, hepatocytes, or other relevant cell lines. The defined concentration and purity of the recombinant protein enables dose-response studies and mechanistic investigations of Saa1 function under controlled experimental conditions.

5. Comparative Species Analysis

This mouse-specific Saa1 protein makes possible comparative studies with human or other mammalian serum amyloid A proteins to understand species-specific differences in structure and function. Researchers can use the recombinant protein alongside human SAA1 in parallel biochemical assays to identify conserved versus divergent properties. Such comparative analyses may contribute to understanding the evolutionary conservation of serum amyloid A function. They might also inform the selection of appropriate animal models for research studies.

Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL. We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.

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.