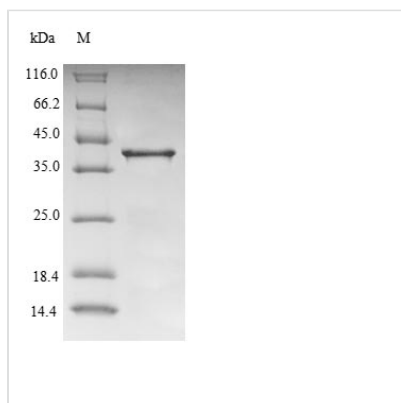




Recombinant Mouse Transthyretin (Ttr), partial

Product Code	CSB-EP025270MO1e0
Relevance	Thyroid hormone-binding protein. Probably transports thyroxine from the bloodstream to the brain.
Abbreviation	Recombinant Mouse Ttr protein, partial
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.	P07309
Alias	Prealbumin
Product Type	Recombinant Protein
Immunogen Species	Mus musculus (Mouse)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	AGAGESKCPLMVKVLDAVRGSPAVDVAVKVFKKTSEGSWEPFASGKTAESGE LHGLTTDEKFVEGVYRVELDTKSYWKTLGISPFHEFADVFTANDSGHRHYTIA ALLSPYSYSTTAVVSNPQN
Research Area	Neuroscience
Source	E.coli
Target Names	Ttr
Expression Region	23-147aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal GST-tagged
Mol. Weight	40.5kDa
Protein Length	Partial

Image



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



Description

Recombinant Mouse Transthyretin (Ttr) gets produced in an E. coli expression system and includes amino acids 23 to 147 of the protein. This partial protein carries an N-terminal GST tag, which makes purification and detection in research applications much more straightforward. The purity level appears to exceed 90%, based on SDS-PAGE analysis. Endotoxin levels are kept at a low threshold, which should make it suitable for sensitive experimental setups.

Transthyretin acts as a transport protein that's mainly involved in binding and carrying thyroxine and retinol-binding protein-vitamin A complex. It seems to play a critical role in how thyroid hormone gets distributed and metabolized. This protein has become significant in studies looking at protein folding and stability, plus its misfolding implications in amyloid diseases - potentially offering valuable insights into related biological pathways.

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. GST Pull-Down Assays for Protein-Protein Interaction Studies

The N-terminal GST tag on this recombinant mouse transthyretin allows researchers to use it as bait protein in GST pull-down experiments when hunting for potential binding partners. The protein can get immobilized on glutathione-sepharose beads, then incubated with mouse tissue lysates or cell extracts to capture interacting proteins. This approach may be particularly valuable for studying transthyretin's role in protein transport and identifying novel binding partners in mouse models. The >90% purity should ensure minimal background binding from contaminant proteins during the pull-down procedure.

2. Antibody Development and Validation

This recombinant mouse transthyretin can work as an immunogen for generating mouse transthyretin-specific antibodies or as a standard for validating existing ones. The high purity (>90%) appears to make it suitable for immunization protocols and ensures consistent antigen quality. Researchers can also use the protein in ELISA-based assays to determine antibody specificity and binding affinity. The GST tag allows for easy purification and immobilization during antibody screening and characterization processes.

3. Comparative Species-Specific Binding Studies

The mouse-specific sequence (amino acids 23-147) makes comparative studies between mouse and human transthyretin binding properties possible with various ligands or transport substrates. Researchers can use this protein in parallel binding assays with human transthyretin to identify species-specific differences in ligand affinity or binding kinetics. Such studies may be valuable



for understanding evolutionary differences in transthyretin function and for validating mouse models used in transthyretin-related research.

4. In Vitro Protein Stability and Aggregation Studies

The recombinant mouse transthyretin can be used to study protein stability, folding, and aggregation behavior under various experimental conditions. Researchers can examine how pH, temperature, ionic strength, and chemical denaturants affect protein structure using techniques such as dynamic light scattering, fluorescence spectroscopy, or analytical ultracentrifugation. The >90% purity should ensure that observed effects are attributable to transthyretin rather than contaminant proteins, making it likely suitable for detailed biophysical characterization 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.