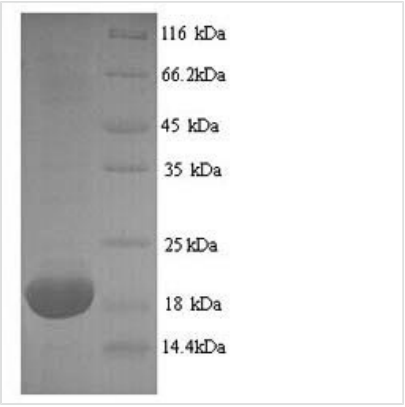
Recombinant Mouse Major urinary protein 2 (Mup2)

Product Code	CSB-YP319316MO
Relevance	Binds pheromones that are released from drying urine of males. These pheromones affect the sexual behavior of fales.
Abbreviation	Recombinant Mouse Mup2 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.	P11589
Product Type	Recombinant Protein
Immunogen Species	Mus musculus (Mouse)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	EEASSTGRNFNVEKINGEWHTIILASDKREKIEDNGNFRLFLEQIHVLEKSLVLK FHTVRDEECSELSMVADKTEKAGEYSVTYDGFNTFTIPKTDYDNFLMAHLINEK DGETFQLMGLYGREPDLSSDIKERFAKLCEEHGILRENIIDLSNANRCLQARE
Research Area	Others
Source	Yeast
Target Names	Mup2
Protein Names	Recommended name: Major urinary protein 2 Short name= MUP 2
Expression Region	19-180aa
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	20.7kDa
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 Major urinary protein 2 (Mup2) is expressed in a yeast system, which appears to provide robust and consistent protein production. The protein contains the full length of the mature form, with an N-terminal 6xHis-tag that makes purification and detection more straightforward. The product shows a purity of over 90% as confirmed by SDS-PAGE analysis, suggesting it may be suitable for various research applications. Endotoxin levels are kept low, meeting research-grade standards.

Major urinary protein 2 (Mup2) belongs to the lipocalin family and is primarily involved in binding and transporting small hydrophobic molecules, such as pheromones. This protein likely plays a significant role in chemical communication and social behavior in mice. Researchers often study Mup2 to understand the molecular mechanisms of olfactory signaling and its impact on animal behavior. This makes it a potentially valuable target in research exploring communication and social interaction 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. Protein-Protein Interaction Studies

This recombinant Mup2 protein can be used in pull-down assays to identify potential binding partners or interacting proteins in mouse tissue lysates or cell extracts. The N-terminal 6xHis tag allows for immobilization on nickel-affinity resins, enabling systematic screening of protein interactions. Such studies might help clarify the molecular mechanisms underlying Mup2 function in mouse physiology. The high purity (>90%) appears to minimize background interference from contaminating proteins during interaction studies.

2. Antibody Development and Validation

The recombinant Mup2 protein serves as what may be an ideal antigen for generating specific antibodies against mouse Major urinary protein 2. The yeast

expression system produces properly folded protein that maintains native-like structure, which seems suitable for immunization protocols. Researchers can take advantage of the 6xHis tag for protein purification and subsequent ELISA-based screening of antibody specificity and affinity. Generated antibodies could then be validated using this same recombinant protein as a positive control in various immunoassays.

3. Structural and Biophysical Characterization

This purified Mup2 protein can be applied in structural biology studies including X-ray crystallography, NMR spectroscopy, or cryo-electron microscopy to determine its three-dimensional structure. The high purity level makes it suitable for biophysical analyses such as dynamic light scattering, circular dichroism spectroscopy, and thermal stability assays. The N-terminal His tag provides a convenient handle for protein immobilization in surface plasmon resonance experiments to study binding kinetics with potential ligands.

4. Biochemical Assay Development

The recombinant protein can serve as a standard or control in biochemical assays designed to study Mup2 function and regulation. The defined concentration and high purity allow for quantitative assay development and validation. Researchers can apply this protein to establish detection methods, optimize assay conditions, and create standard curves for measuring endogenous Mup2 levels in biological samples.

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.