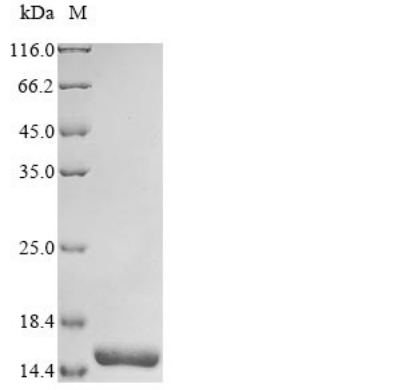
Recombinant Rat Oncomodulin (Ocm)

Product Code	CSB-YP016264RA
Abbreviation	Recombinant Rat Ocm 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.	P02631
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 Protein
Immunogen Species	Rattus norvegicus (Rat)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	SITDILSAEDIAAALQECQDPDTFEPQKFFQTSGLSKMSASQVKDIFRFIDNDQSGYLDGDELKYFLQKFQSDARELTESETKSLMDAADNDGDGKIGADEFQEMVHS
Research Area	others
Source	Yeast
Target Names	Ocm
Expression Region	2-109aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 10xHis-tagged
Mol. Weight	14.5 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 Rat Oncomodulin (Ocm) is produced using a yeast expression system, which appears to deliver high-quality protein expression. The full-length mature protein carries an N-terminal 10xHis-tag that makes purification and detection more straightforward. SDS-PAGE analysis confirms the recombinant protein achieves greater than 90% purity. This product is intended strictly for research purposes and may serve as a reliable tool across different experimental setups.

Oncomodulin (Ocm) is a calcium-binding protein that seems to play a crucial role in cellular processes where calcium regulation matters. Its structure relates closely to calmodulin, making it particularly significant for studies that focus on calcium signaling pathways. The protein's involvement in cellular growth and differentiation likely makes it important for research exploring cellular development and regeneration.

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. Calcium-Binding Protein Interaction Studies

Researchers might use this recombinant rat oncomodulin to investigate calcium-dependent protein-protein interactions in laboratory settings. The N-terminal 10xHis tag allows for protein purification and immobilization during pull-down assays when searching for potential binding partners. Scientists can explore how calcium availability influences oncomodulin's interactions with other cellular proteins through co-immunoprecipitation or surface plasmon resonance approaches. The yeast expression system likely provides properly folded protein that works well for biochemical characterization of these interactions.

2. Antibody Development and Validation

This recombinant protein may serve as an excellent antigen for creating specific antibodies against rat oncomodulin. The >90% purity level appears sufficient for immunization protocols during antibody production. His-tagged protein can be applied in ELISA-based screening to identify high-affinity antibodies and confirm their specificity. This application supports developing research tools for studying oncomodulin expression and localization in rat tissues and cell lines.

3. Biochemical Characterization of Calcium-Binding Properties

The purified recombinant oncomodulin offers opportunities to study its calcium-binding kinetics and thermodynamics through methods like isothermal titration calorimetry or fluorescence spectroscopy. Scientists can determine binding constants, stoichiometry, and conformational changes that occur upon calcium binding. The His tag makes protein purification and concentration determination

simpler for quantitative biochemical assays. These studies may provide fundamental insights into oncomodulin's molecular properties and calcium-sensing mechanisms.

4. Comparative Species Analysis

This rat oncomodulin can work alongside oncomodulin proteins from other species during comparative biochemical studies. Scientists might examine species-specific differences in calcium sensitivity, protein stability, or binding partner preferences through parallel in vitro assays. The standardized expression system and His tag purification approach appears to ensure consistent protein quality for reliable comparative analysis. Such studies could contribute to understanding evolutionary conservation and divergence of oncomodulin function across mammalian species.

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.