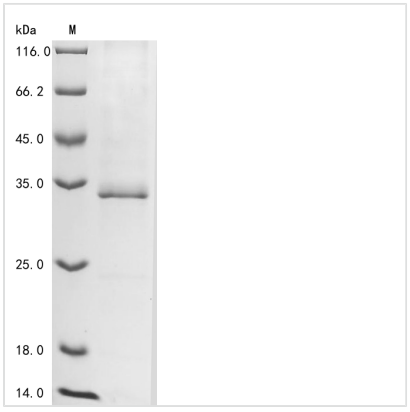
Recombinant Mouse Myocilin (Myoc), partial

Product Code	CSB-BP015356MO
Abbreviation	Recombinant Mouse Myoc 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.	O70624
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	ILKENPSGRPRSKEGDKGCGALVWVGEPVTLRTAETIAGKYGVWMRDPKPTH PYTQESTWRIDTVGTEIRQVFEYSQISQFEQGYPSKVHVLPRALESTGAVVYA GSLYFQGAESRTVVRYELDTETVKAEKEIPGAGYHGHFPYAWGGYTDIDLAVD ESGLWVIYSTEEAKGAIVLSKLNPANLELERTWETNIRKQSVANAFVICGILYTV SSYSSAHATVNFAYDTKTGTSKTLTIPFTNRYKYSSMIDYNPLERKLFAWDNFN MVTYDIKLLEM
Research Area	Epigenetics and Nuclear Signaling
Source	Baculovirus
Target Names	Myoc
Protein Names	Recommended name: MyocilinAlternative name(s): Trabecular meshwork-induced glucocorticoid response protein
Expression Region	213-490aa
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 and C-terminal Myc-tagged
Mol. Weight	35.2 kDa
Protein Length	Partial
Image	



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

Description

Recombinant Mouse Myocilin (Myoc) is produced through a baculovirus expression system and covers amino acids 213-490—a partial but substantial portion of the protein. The recombinant protein includes an N-terminal 10xHis-tag and a C-terminal Myc-tag, which streamline purification and detection processes. SDS-PAGE analysis confirms purity levels exceeding 85%. This product is designed solely for research purposes, with no established biological functions or disease connections specified.

Myocilin appears to be a protein chiefly involved in extracellular matrix processes and can be found across various tissues, particularly in the eye. The protein likely plays an important role in maintaining structural integrity and supporting cellular signaling networks. Research into myocilin seems especially relevant for ocular health studies, given its apparent association with pathways that may influence intraocular pressure and other eye-related physiological processes.

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 dual-tagged myocilin fragment (213-490aa) works well in pull-down assays for identifying potential binding partners in mouse ocular tissues or cell lysates. The N-terminal His-tag allows for immobilization on nickel-affinity resins. Meanwhile, the C-terminal Myc-tag provides a way to detect and confirm protein capture. Anti-Myc antibodies can be used in co-immunoprecipitation experiments to validate interactions discovered through His-tag pull-downs. This strategy appears particularly useful for investigating myocilin's role in extracellular matrix organization and cellular signaling networks.

2. Antibody Development and Validation

The recombinant myocilin fragment may serve as an immunogen for creating

mouse myocilin-specific antibodies or as a control antigen when validating existing ones. The dual-tag system makes purification and detection straightforward during antibody screening. ELISA-based assays using this protein can help researchers determine antibody specificity and binding affinity. Since the fragment represents a considerable portion of the myocilin protein, it's likely suitable for developing antibodies that recognize native myocilin in tissue samples.

3. Biochemical Characterization Studies

This purified myocilin fragment opens up possibilities for detailed biochemical analysis—protein folding studies, thermal stability assessments, and structural characterization. The baculovirus expression system generally produces proteins with appropriate post-translational modifications. This makes the fragment well-suited for investigating myocilin's biochemical properties. Size exclusion chromatography, dynamic light scattering, and other biophysical techniques can help researchers understand the protein's oligomerization state and conformational characteristics. The high purity level (>85%) should ensure dependable results in quantitative biochemical assays.

4. Cell-Based Functional Assays

The tagged myocilin fragment can be introduced into cell culture experiments to examine its effects on cellular processes like extracellular matrix deposition and cell adhesion. Adding the recombinant protein to cell culture media allows researchers to monitor cellular responses while using the Myc-tag to track protein localization and uptake. The fragment might also work as a competitor in binding assays to explore myocilin's interactions with cell surface receptors or extracellular matrix components. These experiments could provide valuable insights into myocilin's biological functions in ocular tissue homeostasis.

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.