

myocilin (C-1): sc-515500



The Power to Question

BACKGROUND

Myocilin is an extracellular protein expressed in the eye, including the retina, trabecular meshwork and ciliary body. Myocilin can form homomultimers *in vivo* and can also associate with components of the ECM via interactions with the Hep II domain of Fibronectin. In addition, myocilin interacts with myosin regulatory light chain, a component of the myosin motor protein complex. This interaction implies a role for myocilin in the actomyosin system, linking myocilin to the functional status of the trabecular meshwork (TM), which is responsible for controlling the intraocular pressure (IOP). Alterations in functions of the TM may lead to IOP elevation and development of glaucoma, a major cause of blindness. Myocilin is encoded by MYOC (also designated TIGR), a gene that maps to the GLC1A locus on chromosome 1q24.3 and is susceptible to mutations. Mutations in the MYOC gene are specifically linked with primary open angle glaucoma (POAG), a blinding disease characterized by progressive loss of retinal ganglion cells.

REFERENCES

- Kim, B.S., et al. 2001. Targeted disruption of the myocilin gene (MYOC) suggests that human glaucoma-causing mutations are gain of function. *Mol. Cell. Biol.* 21: 7707-7713.
- Ricard, C.S., et al. 2001. Expression of myocilin/TIGR in normal and glaucomatous primate optic nerves. *Exp. Eye Res.* 73: 433-447.

CHROMOSOMAL LOCATION

Genetic locus: MYOC (human) mapping to 1q24.3.

SOURCE

myocilin (C-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 482-499 at the C-terminus of myocilin of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-515500 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

myocilin (C-1) is recommended for detection of myocilin of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for myocilin siRNA (h): sc-40753, myocilin shRNA Plasmid (h): sc-40753-SH and myocilin shRNA (h) Lentiviral Particles: sc-40753-V.

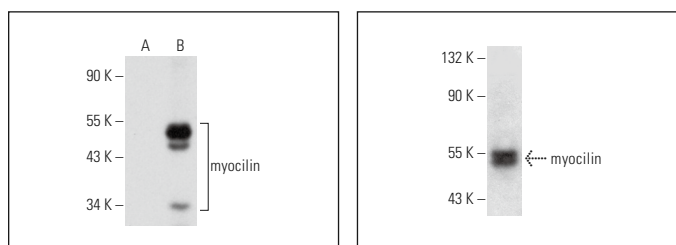
Molecular Weight of myocilin: 57 kDa.

Positive Controls: myocilin (h): 293T Lysate: sc-114465 or human eye extract: sc-364223.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



myocilin (C-1): sc-515500. Western blot analysis of myocilin expression in non-transfected: sc-117752 (A) and human myocilin transfected: sc-114465 (B) 293T whole cell lysates.

myocilin (C-1): sc-515500. Western blot analysis of myocilin expression in human eye tissue extract.

SELECT PRODUCT CITATIONS

- Yan, X., et al. 2020. Accumulation of Asn450Tyr mutant myocilin in ER promotes apoptosis of human trabecular meshwork cells. *Mol. Vis.* 26: 563-573.
- Yan, X., et al. 2022. Myocilin gene mutation induced autophagy activation causes dysfunction of trabecular meshwork cells. *Front. Cell Dev. Biol.* 10: 900777.
- Yan, X., et al. 2024. Serine to proline mutation at position 341 of MYOC impairs trabecular meshwork function by causing autophagy deregulation. *Cell Death Discov.* 10: 21.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.