

myocilin (N-15): sc-21243

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™, 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.
- Filla, M.S., et al. 2002. *In vitro* localization of TIGR/MYOC in trabecular meshwork extracellular matrix and binding to fibronectin. *Invest. Ophthalmol. Vis. Sci.* 43: 151-161.
- Wentz-Hunter, K., et al. 2002. Protein interactions with myocilin. *Invest. Ophthalmol. Vis. Sci.* 43: 176-182.

CHROMOSOMAL LOCATION

Genetic locus: MYOC (human) mapping to 1q24.3; Myoc (mouse) mapping to 1 H2.1.

SOURCE

myocilin (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of myocilin of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-21243 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

myocilin (N-15) is recommended for detection of myocilin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

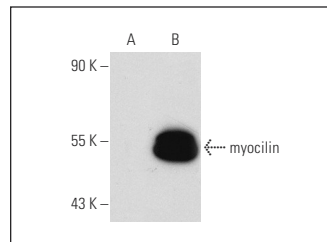
myocilin (N-15) is also recommended for detection of myocilin in additional species, including equine, canine and feline.

Suitable for use as control antibody for myocilin siRNA (h): sc-40753, myocilin siRNA (m): sc-40754, myocilin shRNA Plasmid (h): sc-40753-SH, myocilin shRNA Plasmid (m): sc-40754-SH, myocilin shRNA (h) Lentiviral Particles: sc-40753-V and myocilin shRNA (m) Lentiviral Particles: sc-40754-V.

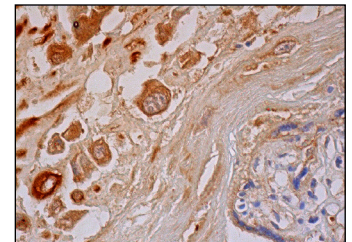
Molecular Weight of myocilin: 57 kDa.

Positive Controls: myocilin (h): 293T Lysate: sc-114465.

DATA



myocilin (N-15): sc-21243. Western blot analysis of myocilin expression in non-transfected: sc-117752 (A) and human myocilin transfected: sc-114465 (B) 293T whole cell lysates.



myocilin (N-15): sc-21243. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic staining of trophoblastic and decidual cells.

SELECT PRODUCT CITATIONS

- Paper, W., et al. 2008. Elevated amounts of myocilin in the aqueous humor of transgenic mice cause significant changes in ocular gene expression. *Exp. Eye Res.* 87: 257-267.
- He, Y., et al. 2009. Pro370Leu mutant myocilin impairs mitochondrial functions in human trabecular meshwork cells. *Mol. Vis.* 15: 815-825.
- Goldwich, A., et al. 2009. Myocilin promotes substrate adhesion, spreading and formation of focal contacts in podocytes and mesangial cells. *Histochem. Cell Biol.* 131: 167-180.



Try **myocilin (F-12): sc-137233** or **myocilin (C-1): sc-515500**, our highly recommended monoclonal alternatives to myocilin (N-15).