SANTA CRUZ BIOTECHNOLOGY, INC.

myocilin (C-15): sc-21245

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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™, which is responsible for controlling the intraocular pressure (IOP). Al-terations 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

1. 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.
2. Ricard, C.S., et al. 2001. Expression of myocilin/TIGR in normal and glaucomatous primate optic nerves. Exp. Eye Res. 73: 433-447.
3. 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.
4. Wentz-Hunter, K., et al. 2002. Protein interactions with myocilin. Invest. Ophthalmol. Vis. Sci. 43: 176-182.
5. Wentz-Hunter, K., et al. 2002. Myocilin is associated with mitochondria in human trabecular meshwork cells. J. Cell. Physiol. 190: 46-53.

CHROMOSOMAL LOCATION

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

SOURCE

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

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-21245 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.

APPLICATIONS

myocilin (C-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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

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.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Tawara, A., et al. 2008. Immunohistochemical evaluation of the extracellular matrix in trabecular meshwork in steroid-induced glaucoma. Graefes Arch. Clin. Exp. Ophthalmol. 246: 1021-1028.

RESEARCH USE

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

PROTOCOLS

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