SANTA CRUZ BIOTECHNOLOGY, INC.

Myosin XVA (C-17): sc-165065

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The Power to Question

BACKGROUND

Myosins are highly conserved, ubiquitously expressed proteins that interact with actin to generate the force for cellular movements. The human genome encodes over 40 different myosin genes which are divided into distinct classes, the most notable of which are the conventional myosins (class II) and the unconventional Myosins (classes I and III through XVIII). Myosin XVA, also designated unconventional Myosin-15 or MYO15A, is a 3,530 amino acid cytoplasmic protein that is required for actin organization in hair cells of the cochlea. While highly expressed in pituitary, Myosin XVA is found at lower levels in placenta, lung, liver, kidney, skeletal muscle and pancreas. Myosin XVA contains one FERM domain, an SH3 domain, three IQ domains, two MyTH4 domains and a single myosin head-like domain.

REFERENCES

1. Wang, A., et al. 1998. Association of unconventional myosin MYO15 mutations with human nonsyndromic deafness DFNB3. Science 280: 1447-1451.
2. Anderson, D.W., et al. 2000. The motor and tail regions of Myosin XV are critical for normal structure and function of auditory and vestibular hair cells. Hum. Mol. Genet. 9: 1729-1738.
3. Karolyi, I.J., et al. 2003. Myo15 function is distinct from Myo6, Myo7a and pirouette genes in development of cochlear stereocilia. Hum. Mol. Genet. 12: 2797-2805.
4. Delprat, B., et al. 2005. Myosin XVa and whirlin, two deafness gene products required for hair bundle growth, are located at the stereocilia tips and interact directly. Hum. Mol. Genet. 14: 401-410.
5. Belyantseva, I.A., et al. 2005. Myosin-XVa is required for tip localization of whirlin and differential elongation of hair-cell stereocilia. Nat. Cell Biol. 7: 148-156.
6. Kalay, E., et al. 2007. MYO15A (DFNB3) mutations in Turkish hearing loss families and functional modeling of a novel motor domain mutation. Am. J. Med. Genet. A. 143A: 2382-2389.
7. Nal, N., et al. 2007. Mutational spectrum of MYO15A: the large N-terminal extension of myosin XVA is required for hearing. Hum. Mutat. 28: 1014-1019.
8. Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 602666. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: MYO15A (human) mapping to 17p11.2; Myo15 (mouse) mapping to 11 B2.

SOURCE

Myosin XVA (C-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Myosin XVA 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-165065 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Myosin XVA (C-17) is recommended for detection of Myosin XVA of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with other Myosin family members.

Myosin XVA (C-17) is also recommended for detection of Myosin XVA in additional species, including equine, canine and bovine.

Suitable for use as control antibody for Myosin XVA siRNA (h): sc-93769, Myosin XVA siRNA (m): sc-149766, Myosin XVA shRNA Plasmid (h): sc-93769-SH, Myosin XVA shRNA Plasmid (m): sc-149766-SH, Myosin XVA shRNA (h) Lentiviral Particles: sc-93769-V and Myosin XVA shRNA (m) Lentiviral Particles: sc-149766-V.

Molecular Weight of Myosin XVA: 395 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) 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.

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 or our catalog for detailed protocols and support products.