

MYH14 (A-15): sc-138037

BACKGROUND

Actin is a highly conserved protein that is expressed in all eukaryotic cells. Actin filaments can form both stable and labile structures and are crucial components of microvilli and the contractile apparatus of muscle cells. Myosin is a hexamer of 2 heavy chains (MHC) and 4 light chains (MLC) that interacts with Actin to generate the force for diverse cellular movements, including cytokinesis, phagocytosis and muscle contraction. MYH14 (myosin heavy chain 14), also known as myosin-14, non-muscle myosin heavy chain IIcDFNA4, MHC16, myosin, FLJ13881, FLJ43092, FP17425, KIAA2034, NMHC-II-C or DKFZp667A1311, is a 1,995 amino acid protein belonging to the non-muscle myosin II family. MYH14 contains an N-terminal myosin domain, a C-terminal myosin tail, a myosin head region and two IQ domains. Four MYH14 isoforms exist as a result of alternative splicing and MYH14 is highly expressed in skeletal muscle, small intestine and colon. A form of sensorineural hearing loss known as non-syndromic sensorineural deafness autosomal dominant type 4 (DFNA4), is caused by MYH14 defects.

REFERENCES

- Chen, A.H., et al. 1995. Linkage of a gene for dominant non-syndromic deafness to chromosome 19. *Hum. Mol. Genet.* 4: 1073-1076.
- Leal, A., et al. 2003. A novel myosin heavy chain gene in human chromosome 19q13.3. *Gene* 312: 165-171.
- Donaudy, F., et al. 2004. Non-muscle myosin heavy-chain gene MYH14 is expressed in cochlea and mutated in patients affected by autosomal dominant hearing impairment (DFNA4). *Am. J. Hum. Genet.* 74: 770-776.
- Golomb, E., et al. 2004. Identification and characterization of non-muscle myosin II-C, a new member of the myosin II family. *J. Biol. Chem.* 279: 2800-2808.
- Kim, K.Y., et al. 2005. Disease-associated mutations and alternative splicing alter the enzymatic and motile activity of non-muscle myosins II-B and II-C. *J. Biol. Chem.* 280: 22769-22775.
- Online Mendelian Inheritance in Man, OMIM[™]. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 600652. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: MYH14 (human) mapping to 19q13.33; Myh14 (mouse) mapping to 7 B4.

SOURCE

MYH14 (A-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of myosin heavy chain 14 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-138037 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MYH14 (A-15) is recommended for detection of myosin heavy chain 14 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); non cross-reactive with other MYH family members.

Suitable for use as control antibody for MYH14 siRNA (h): sc-97260, MYH14 siRNA (m): sc-149739, MYH14 shRNA Plasmid (h): sc-97260-SH, MYH14 shRNA Plasmid (m): sc-149739-SH, MYH14 shRNA (h) Lentiviral Particles: sc-97260-V and MYH14 shRNA (m) Lentiviral Particles: sc-149739-V.

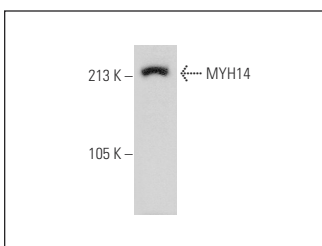
Molecular Weight of MYH14: 228 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201.

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.

DATA



MYH14 (A-15): sc-138037. Western blot analysis of MYH14 expression in A-431 whole cell lysate.

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.