SANTA CRUZ BIOTECHNOLOGY, INC.

MYH9 (D-16): sc-47199

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 two heavy chains (MHC) and four light chains (MLC) that interacts with Actin to generate the force for diverse cellular movements, including cytokinesis, phagocytosis and muscle contraction. Myosin IIa can also be designated nonmuscle myosin heavy chain IIa, cellular myosin heavy chain, type A, myosin-9 or NMMHC-IIA. Myosin IIa is involved in cell shape, cytokinesis and specialized functions such as capping and secretion. It is expressed in leukoctyes and in glomeruli in the kidney. Defects in the gene encoding for myosin IIa, MYH9, may cause several different diseases, including Sebastian syndrome (SBS), Fechtner syndrome (FTNS), Alport syndrome with macrothro-mbocytopenia (APSM), autosomal dominant nonsyndromic sensorineural deafness 17 (DFNA17) and Epstein syndrome (EPS).

REFERENCES

1. Saez, C.G., et al. 1990. Human nonmuscle Myosin heavy chain mRNA: generation of diversity through alternative polyadenylylation. Proc. Natl. Acad. Sci. USA 87: 1164-1168.
2. Lalwani, A.K., et al. 2000. Human nonsyndromic hereditary deafness DFNA17 is due to a mutation in nonmuscle Myosin MYH9. Am. J. Hum. Genet. 67: 1121-1128.
3. Seri, M., et al. 2000. Mutations in MYH9 result in the May-Hegglin anomaly, and Fechtner and Sebastian syndromes. The May-Hegglin/Fechtner Syndrome Consortium. Nat. Genet. 26: 103-105.
4. Heath, K.E., et al. 2001. Nonmuscle Myosin heavy chain IIA mutations define a spectrum of autosomal dominant macrothrombocytopenias: May-Hegglin anomaly and Fechtner, Sebastian, Epstein, and Alport-like syndromes. Am. J. Hum. Genet. 69: 1033-1045.
5. Deutsch, S., et al. 2003. Asp1424Asn MYH9 mutation results in an unstable protein responsible for the phenotypes in May-Hegglin anomaly/Fechtner syndrome. Blood 102: 529-534.

CHROMOSOMAL LOCATION

Genetic locus: MYH9 (human) mapping to 22q12.3; Myh9 (mouse) mapping to 15 E1.

SOURCE

MYH9 (D-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of myosin heavy chain 9 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-47199 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MYH9 (D-16) is recommended for detection of myosin heavy chain 9 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).

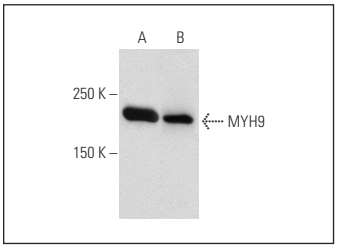
MYH9 (D-16) is also recommended for detection of myosin heavy chain 9 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for MYH9 siRNA (h): sc-61120, MYH9 siRNA (m): sc-61121, MYH9 shRNA Plasmid (h): sc-61120-SH, MYH9 shRNA Plasmid (m): sc-61121-SH, MYH9 shRNA (h) Lentiviral Particles: sc-61120-V and MYH9 shRNA (m) Lentiviral Particles: sc-61121-V.

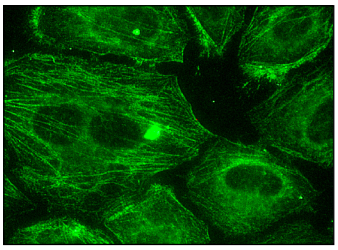
Molecular Weight of MYH9: 226 kDa.

Positive Controls: Caki-1 cell lysate: sc-2224, RD whole cell lysate: sc-364791 or rat skeletal muscle extract: sc-364810.

DATA



MYH9 (D-16): sc-47199. Western blot analysis of MYH9 expression in Caki-1 (**A**) and RD (**B**) whole cell lysates.



MYH9 (D-16): sc-47199. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane and cytoskeletal localization.

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.