SANTA CRUZ BIOTECHNOLOGY, INC.

MYH15 (h): 293T Lysate: sc-372336

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 heavy chains, encoded by the MYH gene family, contain Actin-activated ATPase activity which generates the motor function of Myosin. Myosin heavy chains were initially isolated from a human fetal skeletal muscle and are the major determinant in the speed of contraction of skeletal muscle. Various isoforms of Myosin heavy chains are differentially expressed depending on the functional activity of the muscle. MYH15 (Myosin, heavy chain 15), is a 1,946 amino acid cytoplasmic protein that contains an N-terminal myosin head-like domain and one IQ domain. Involved in muscle contractions, the gene encoding MYH15 maps to human chromosome 3, which houses over 1,100 genes, including a chemokine receptor (CKR) gene cluster and a variety of human cancer-related gene loci.

REFERENCES

1. Nagai, R., et al. 1989. Vertebrate smooth muscle myosin heavy chains (MHCs) exist as two isoforms with molecular masses of 204 and 200 kDa (MHC204 and MHC200) that are generated from a single gene by alternative splicing of mRNA. J. Biol. Chem. 264: 9734-9737.
2. Karsch-Mizrachi, I., et al. 1990. Generation of a full-length human perinatal myosin heavy-chain-encoding cDNA. Gene 89: 289-294.
3. Bober, E., et al. 1990. Identification of three developmentally controlled isoforms of human myosin heavy chains. Eur. J. Biochem. 189: 55-65.
4. Yoon, S.J., et al. 1992. Organization of the human skeletal myosin heavy chain gene cluster. Proc. Natl. Acad. Sci. USA 89: 12078-12082.
5. Cheney, R.E., et al. 1993. Phylogenetic analysis of the myosin superfamily. Cell Motil. Cytoskeleton 24: 215-223.
6. Owens, G.K. 1995. Regulation of differentiation of vascular smooth muscle cells. Physiol. Rev. 75: 487-517.
7. Jullian, E.H., et al. 1995. Characterization of a human perinatal myosin heavy-chain transcript. Eur. J. Biochem. 230: 1001-1006.
8. Weiss, A., et al. 1996. The mammalian myosin heavy chain gene family. Annu. Rev. Cell Dev. Biol. 12: 417-439.
9. Luke, M.M., et al. 2009. Gene variants associated with ischemic stroke: the cardiovascular health study. Stroke 40: 363-368.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: MYH15 (human) mapping to 3q13.13.

PRODUCT

MYH15 (h): 293T Lysate represents a lysate of human MYH15 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

MYH15 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive MYH15 antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

RESEARCH USE

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