SANTA CRUZ BIOTECHNOLOGY, INC.

MuSK (1429CT456.173.44): sc-517346

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Receptor tyrosine kinases (RTKs) represent an important class of transmembrane signaling molecules. Binding of the extracellular domain of an RTK to its cognate ligand leads to receptor dimerization and the activation of the intrinsic tyrosine kinase activity of its intracellular kinase domain. The specificity of this type of cellular communication is conferred in part by the distribution of the receptor, which determines the cells that are capable of responding to a given ligand. MuSK, for muscle-specific kinase, also designated MLK1 for muscle localized kinase 1, is an RTK that is uniquely specific to the skeletal muscle lineage. MuSK is expressed at low levels in proliferating myoblasts, but is induced upon terminal differentiation and myotube fusion. In the embryo, MuSK is expressed in developing muscle, but its level of expression is dramatically reduced in mature muscle, where it is abundant only at the neuromuscular junction. The human MuSK gene maps to chromosome 9q31.3, overlapping a region containing the Fukuyama muscular dystrophy mutation.

REFERENCES

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2. Janssen, J.W.G., Schulz, A.S., Steenvoorden, A.C.M., Schmidberger, M., Strehl, S., Ambros, P.F. and Bartram, C.R. 1991. A novel putative tyrosine kinase receptor with oncogenic potential. Oncogene 6: 2113-2120.
3. Schlessinger, J. and Ullrich, A. 1992. Growth factor signaling by receptor tyrosine kinases. Neuron 9: 383-391.
4. Biesecker, L.G., Giannola, D.M. and Emerson, S.G. 1995. Identification of alternative exons, including a novel exon, in the tyrosine kinase receptor gene Etk2/tyro3 that explain differences in 5' cDNA sequences. Oncogene 10: 2239-2242.
5. Taylor, I.C.A., Roy, S. and Varmus, H.E. 1995. Overexpression of the Sky receptor tyrosine kinase at the cell surface or in the cytoplasm results in ligand-independent activation. Oncogene 11: 2619-2626.
6. Valenzuela, D.M., Stitt, T.N., DiStefano, P.S., Rojas, E., Mattsson, K., Compton, D.L., Nuñez, L., Park, J.S., Stark, J.L., Gies, D.R., Thomas, S., Le Beau, M.M., Fernald, A.A., Copeland, N.G., Jenkins, N.A., et al. 1995. Receptor tyrosine kinase specific for the skeletal muscle lineage: expression in embryonic muscle, at the neuromuscular junction, and after injury. Neuron 15: 573-584.

CHROMOSOMAL LOCATION

Genetic locus: Musk (mouse) mapping to 4 B3.

SOURCE

MuSK (1429CT456.173.44) is a mouse monoclonal antibody raised against a recombinant protein corresponding to MuSK of mouse origin.

RESEARCH USE

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

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

MuSK (1429CT456.173.44) is recommended for detection of MuSK of mouse and rat 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for MuSK siRNA (m): sc-44655, MuSK shRNA Plasmid (m): sc-44655-SH and MuSK shRNA (m) Lentiviral Particles: sc-44655-V.

Molecular Weight of MuSK: 97 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 3) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

SELECT PRODUCT CITATIONS

1. He, X., Zhou, S., Ji, Y., Zhang, Y., Lv, J., Quan, S., Zhang, J., Zhao, X., Cui, W., Li, W., Liu, P., Zhang, L., Shen, T., Fang, H., Yang, J., Zhang, Y., Cui, X., Zhang, Q. and Gao, F. 2022. Sorting nexin 17 increases low-density lipoprotein receptor-related protein 4 membrane expression: A novel mechanism of acetylcholine receptor aggregation in myasthenia gravis. Front. Immunol. 13: 916098.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

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