SANTA CRUZ BIOTECHNOLOGY, INC.

MuSK (C-19): sc-6009

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 receptor's distribution, which determines the cells that are capable of responding to a given ligand. MuSK, for muscle-specific kinase, 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.

CHROMOSOMAL LOCATION

Genetic locus: MUSK (human) mapping to 9q31.3; Musk (mouse) mapping to 4 B3.

SOURCE

MuSK (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of MuSK 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-6009 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MuSK (C-19) is recommended for detection of MuSK (also designated MLK1 for muscle localized kinase 1) 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).

MuSK (C-19) is also recommended for detection of MuSK (also designated MLK1 for muscle localized kinase 1) in additional species, including equine.

Suitable for use as control antibody for MuSK siRNA (h): sc-43952, MuSK siRNA (m): sc-44655, MuSK shRNA Plasmid (h): sc-43952-SH, MuSK shRNA Plasmid (m): sc-44655-SH, MuSK shRNA (h) Lentiviral Particles: sc-43952-V and MuSK shRNA (m) Lentiviral Particles: sc-44655-V.

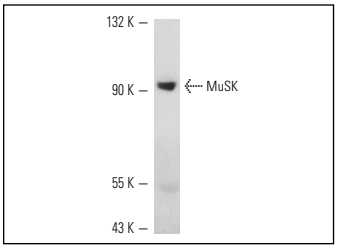
Molecular Weight of MuSK: 97 kDa.

Positive Controls: SK-N-SH cell lysate: sc-2410, Sol8 cell lysate: sc-2249 or rat skeletal muscle extract: sc-364810.

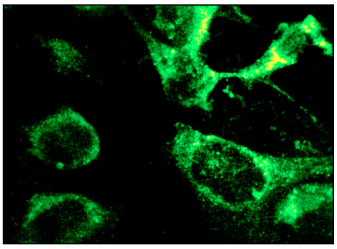
STORAGE

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

DATA



MuSK (C-19): sc-6009. Western blot analysis of MuSK expression in rat skeletal muscle tissue extract.



MuSK (C-19): sc-6009. Immunofluorescence staining of methanol-fixed SJRH30 cells showing membrane localization.

SELECT PRODUCT CITATIONS

1. Fu, A.K., et al. 1999. *Xenopus* muscle-specific kinase: molecular cloning and prominent expression in neural tissues during early embryonic development. Eur. J. Neurosci. 11: 373-382.
2. Finn, A.J., et al. 2003. Postsynaptic requirement for Abl kinases in assembly of the neuromuscular junction. Nat. Neurosci. 6: 717-723.
3. Jones, N., et al. 2007. Analysis of a Shc family adaptor protein, ShcD/Shc4, that associates with muscle-specific kinase. Mol. Cell. Biol. 27: 4759-4773.
4. Lu, Z., et al. 2007. Regulation of synaptic growth and maturation by a synapse-associated E3 ubiquitin ligase at the neuromuscular junction. J. Cell Biol. 177: 1077-1089.
5. Hamuro, J., et al. 2008. Mutations causing DOK7 congenital myasthenia ablate functional motifs in Dok-7. J. Biol. Chem. 283: 5518-5524.
6. Maselli, R.A., et al. 2010. Mutations in MUSK causing congenital myasthenic syndrome impair MuSK-Dok-7 interaction. Hum. Mol. Genet. 19: 2370-2379.
7. Hezel, M., et al. 2010. Caveolin-3 promotes nicotinic acetylcholine receptor clustering and regulates neuromuscular junction activity. Mol. Biol. Cell 21: 302-310.

RESEARCH USE

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