

# MuSK (H-300): sc-33204

## 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, 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

1. Shoyab, M., et al. 1989. Structure and function of human amphiregulin: a member of the epidermal growth factor family. *Science* 243: 1074-1076.
2. Janssen, J.W., et al. 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., et al. 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., et al. 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., 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 (human) mapping to 9q31.3; Musk (mouse) mapping to 4 B3.

## SOURCE

MuSK (H-300) is a rabbit polyclonal antibody raised against amino acids 121-203 mapping within an N-terminal extracellular domain 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.

## STORAGE

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

## APPLICATIONS

MuSK (H-300) 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 (H-300) is also recommended for detection of MuSK (also designated MLK1 for muscle localized kinase 1) in additional species, including equine, canine and bovine.

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: Sol8 cell lysate: sc-2249, TE671 cell lysate: sc-2416 or SK-N-SH cell lysate: sc-2410.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **MuSK (1-YD2): sc-134398**, our highly recommended monoclonal alternative to MuSK (H-300).