

MICAL3 (V-18): sc-99556

BACKGROUND

MICAL3 (microtubule associated monoxygenase, calponin and LIM domain containing 3), also known as KIAA1364, is a 976 amino acid protein that localizes to both the cytoplasm and the cytoskeleton and contains one LIM zinc-binding domain and one calponin-homology domain. Expressed ubiquitously, MICAL3 uses FAD as a cofactor to interact with Rab 1B and, via this interaction, is thought to play a role in spermatid development. MICAL3 exists as two alternatively spliced isoforms that are encoded by a gene which maps to human chromosome 22. Chromosome 22 houses over 500 genes, some of which are involved in Phelan-McDermid syndrome, schizophrenia and neurofibromatosis type 2.

REFERENCES

- Schwab, S.G. and Wildenauer, D.B. 1999. Chromosome 22 workshop report. *Am. J. Med. Genet.* 88: 276-278.
- Dunham, I., Shimizu, N., Roe, B.A., Chissole, S., Hunt, A.R., Collins, J.E., Bruskiwich, R., Beare, D.M., Clamp, M., Smink, L.J., Ainscough, R., Almeida, J.P., Babbage, A., Bagguley, C., Bailey, J., Barlow, K., Bates, K.N., et al. 1999. The DNA sequence of human chromosome 22. *Nature* 402: 489-495.
- Nagase, T., Kikuno, R., Ishikawa, K.I., Hirose, M. and Ohara, O. 2000. Prediction of the coding sequences of unidentified human genes. XVI. The complete sequences of 150 new cDNA clones from brain which code for large proteins *in vitro*. *DNA Res.* 7: 65-73.
- Terman, J.R., Mao, T., Pasterkamp, R.J., Yu, H.H. and Kolodkin, A.L. 2002. MICALs, a family of conserved flavoprotein oxidoreductases, function in plexin-mediated axonal repulsion. *Cell* 109: 887-900.
- Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 608882. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Tsilchorozidou, T., Menko, F.H., Laloo, F., Kidd, A., De Silva, R., Thomas, H., Smith, P., Malcolmson, A., Dore, J., Madan, K., Brown, A., Yovos, J.G., Tsaligopoulos, M., Vogiatzis, N., Baser, M.E., Wallace, A.J. and Evans, D.G. 2004. Constitutional rearrangements of chromosome 22 as a cause of neurofibromatosis 2. *J. Med. Genet.* 41: 529-534.
- Fischer, J., Weide, T. and Barnekow, A. 2005. The MICAL proteins and Rab 1: a possible link to the cytoskeleton? *Biochem. Biophys. Res. Commun.* 328: 415-423.
- Hay, B.N. 2007. Deletion 22q11: spectrum of associated disorders. *Semin Pediatr. Neurol.* 14: 136-139.

CHROMOSOMAL LOCATION

Genetic locus: MICAL3 (human) mapping to 22q11.21; Mical3 (mouse) mapping to 6 F1.

SOURCE

MICAL3 (V-18) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of MICAL3 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-99556 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MICAL3 (V-18) is recommended for detection of MICAL3 of mouse, rat and human 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

MICAL3 (V-18) is also recommended for detection of MICAL3 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for MICAL3 siRNA (h): sc-75783, MICAL3 siRNA (m): sc-149425, MICAL3 shRNA Plasmid (h): sc-75783-SH, MICAL3 shRNA Plasmid (m): sc-149425-SH, MICAL3 shRNA (h) Lentiviral Particles: sc-75783-V and MICAL3 shRNA (m) Lentiviral Particles: sc-149425-V.

Molecular Weight of MICAL3: 110 kDa.

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) 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.

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.



Try **MICAL3 (3A6): sc-517049**, our highly recommended monoclonal alternative to MICAL3 (V-18).