

# MICAL2 (L-12): sc-135498

## BACKGROUND

MICAL2 (microtubule associated monooxygenase, calponin and LIM domain containing 2), also known as MICAL2PV1 or MICAL2PV2, is a 1,124 amino acid protein that localizes to both the cytoplasm and the cytoskeleton and contains one LIM zinc-binding domain and one calponin-homology domain. Using FAD as a cofactor, MICAL2 interacts with Rab 1B, plexin-A4 and Vimentin and, via these interactions, may play a role in cytoskeletal regulation, specifically at intermediate filaments. MICAL2, which exists as two alternatively spliced isoforms, is expressed at high levels in heart and brain and at lower levels in ovary, skeletal muscle, liver, testis and kidney tissue.

## REFERENCES

1. Winberg, M.L., Noordermeer, J.N., Tamagnone, L., Comoglio, P.M., Spriggs, M.K., Tessier-Lavigne, M. and Goodman, C.S. 1998. Plexin-A is a neuronal semaphorin receptor that controls axon guidance. *Cell* 95: 903-916.
2. Nagase, T., Ishikawa, K., Suyama, M., Kikuno, R., Miyajima, N., Tanaka, A., Kotani, H., Nomura, N. and Ohara, O. 1998. Prediction of the coding sequences of unidentified human genes. XI. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. *DNA Res.* 5: 277-286.
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4. 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.
5. Ashida, S., Furihata, M., Katagiri, T., Tamura, K., Anazawa, Y., Yoshioka, H., Miki, T., Fujioka, T., Shuin, T., Nakamura, Y. and Nakagawa, H. 2006. Expression of novel molecules, MICAL2-PV (MICAL2 prostate cancer variants), increases with high Gleason score and prostate cancer progression. *Clin. Cancer Res.* 12: 2767-2773.
6. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 608881. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

## CHROMOSOMAL LOCATION

Genetic locus: MICAL2 (human) mapping to 11p15.3; Mical2 (mouse) mapping to 7 F1.

## SOURCE

MICAL2 (L-12) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of MICAL2 of human origin.

## 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.

## 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-135498 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

MICAL2 (L-12) is recommended for detection of MICAL2 isoforms 1 and 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other MICAL family members.

MICAL2 (L-12) is also recommended for detection of MICAL2 isoforms 1 and 2 in additional species, including porcine.

Suitable for use as control antibody for MICAL2 siRNA (h): sc-96854, MICAL2 siRNA (m): sc-149424, MICAL2 shRNA Plasmid (h): sc-96854-SH, MICAL2 shRNA Plasmid (m): sc-149424-SH, MICAL2 shRNA (h) Lentiviral Particles: sc-96854-V and MICAL2 shRNA (m) Lentiviral Particles: sc-149424-V.

## 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<sup>™</sup> compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> 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<sup>™</sup> Mounting Medium: sc-24941.

## SELECT PRODUCT CITATIONS

1. Lee, B.C., Péterfi, Z., Hoffmann, F.W., Moore, R.E., Kaya, A., Avanesov, A., Tarrago, L., Zhou, Y., Weerapana, E., Fomenko, D.E., Hoffmann, P.R. and Gladyshev, V.N. 2013. MsrB1 and MICALs regulate actin assembly and macrophage function via reversible stereoselective methionine oxidation. *Mol. Cell* 51: 397-404.

## PROTOCOLS

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