

MAGI-3 (46): sc-136471

BACKGROUND

The membrane-associated guanylate kinase (MAGUK) proteins are concentrated at the membrane-cytoskeletal interface where they facilitate the assembly of multiprotein complexes on the inner surface of the plasma membrane. Three protein-protein interaction modules characteristically define MAGUK-related proteins: the PDZ domain, the SH3 domain and the guanylate kinase (GuK) domain. The closely related MAGUK proteins, MAGI-1, MAGI-2 and MAGI-3, contain the GuK domain and five PDZ domains; however, the SH3 domain is replaced with a WW domain. The transcripts of MAGI-1 are alternatively spliced to produce three distinct proteins having unique carboxy-terminals. Two variants, MAGI-1a and MAGI-1b, are associated with the membrane and cytosolic fractions and are primarily expressed in the brain. The third isoform, MAGI-1c, encodes for a nuclear localization signal that localizes MAGI-1c to the nucleus, and it is primarily expressed in the liver and kidney. MAGI-2 and MAGI-3 are localized to the plasma membrane, and they contribute to protein scaffolding by associating with the protein phosphatase PTEN.

REFERENCES

- Anderson, J.M. 1996. Cell signalling: MAGUK magic. *Curr. Biol.* 6: 382-384.
- Dobrosotskaya, I., et al. 1997. MAGI-1, a membrane-associated guanylate kinase with a unique arrangement of protein-protein interaction domains. *J. Biol. Chem.* 272: 31589-31597.
- Wood, J.D., et al. 1998. Atrophin-1, the DRPLA gene product, interacts with two families of WW domain-containing proteins. *Mol. Cell. Neurosci.* 11: 149-160.
- Dimitratos, S.D., et al. 1999. Signaling pathways are focused at specialized regions of the plasma membrane by scaffolding proteins of the MAGUK family. *Bioessays* 21: 912-921.

CHROMOSOMAL LOCATION

Genetic locus: MAGI3 (human) mapping to 1p13.2; Magi3 (mouse) mapping to 3 F2.2.

SOURCE

MAGI-3 (46) is a mouse monoclonal antibody raised against amino acids 194-298 of MAGI-3 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

MAGI-3 (46) is available conjugated to agarose (sc-136471 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; and to HRP (sc-136471 HRP), 200 µg/ml, for WB, IHC(P) and ELISA.

STORAGE

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

APPLICATIONS

MAGI-3 (46) is recommended for detection of MAGI-3 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for MAGI-3 siRNA (h): sc-42004, MAGI-3 siRNA (m): sc-42005, MAGI-3 shRNA Plasmid (h): sc-42004-SH, MAGI-3 shRNA Plasmid (m): sc-42005-SH, MAGI-3 shRNA (h) Lentiviral Particles: sc-42004-V and MAGI-3 shRNA (m) Lentiviral Particles: sc-42005-V.

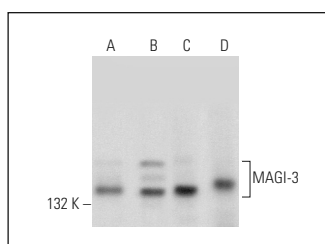
Molecular Weight of MAGI-3: 140 kDa.

Positive Controls: A-673 cell lysate: sc-2414, BC₃H1 cell lysate: sc-2299 or rat brain extract: sc-2392.

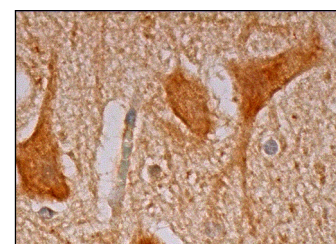
RECOMMENDED SUPPORT REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



MAGI-3 (46): sc-136471. Western blot analysis of MAGI-3 expression in A-673 (A) and BC₃H1 (B) whole cell lysates and rat brain (C) and human cerebral cortex (D) tissue extracts. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



MAGI-3 (46): sc-136471. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebral cortex tissue showing cytoplasmic staining of neuronal cells and neuropil staining.

SELECT PRODUCT CITATIONS

- Yang, Z., et al. 2021. Reduced MAGI3 level by HPV18E6 contributes to Wnt/β-catenin signaling activation and cervical cancer progression. *FEBS Open Bio*. E-published.

RESEARCH USE

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