

MAGI-2 (6F5): sc-517008

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 (membrane associated guanylate kinase inverted-1 and 2), likewise 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

1. Anderson, J.M. 1996. Cell signalling: MAGUK magic. *Curr. Biol.* 6: 382-384.
2. 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.
3. 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.
4. 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.
5. Dobrosotskaya, I.Y. and James, G.L. 2000. MAGI-1 interacts with β -catenin and is associated with cell-cell adhesion structures. *Biochem. Biophys. Res. Commun.* 270: 903-909.
6. Wu, Y., et al. 2000. Interaction of the tumor suppressor PTEN/MMAC with a PDZ domain of MAGI-3, a novel membrane-associated guanylate kinase. *J. Biol. Chem.* 275: 21477-21485.
7. Wu, X., et al. 2000. Evidence for regulation of the PTEN tumor suppressor by a membrane-localized multi-PDZ domain containing scaffold protein MAGI-2. *Proc. Natl. Acad. Sci. USA* 97: 4233-4238.

CHROMOSOMAL LOCATION

Genetic locus: MAGI2 (human) mapping to 7q21.11; Magi2 (mouse) mapping to 5 A3.

SOURCE

MAGI-2 (6F5) is a mouse monoclonal antibody raised against amino acids 519-628 representing partial length MAGI-2 of human origin.

PRODUCT

Each vial contains 100 μ g IgG₁ kappa light chain in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

MAGI-2 (6F5) is recommended for detection of MAGI-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

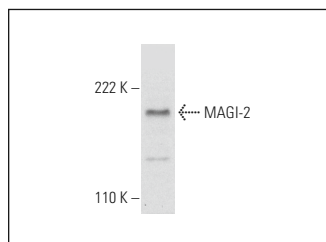
Suitable for use as control antibody for MAGI-2 siRNA (h): sc-42002, MAGI-2 siRNA (m): sc-42003, MAGI-2 shRNA Plasmid (h): sc-42002-SH, MAGI-2 shRNA Plasmid (m): sc-42003-SH, MAGI-2 shRNA (h) Lentiviral Particles: sc-42002-V and MAGI-2 shRNA (m) Lentiviral Particles: sc-42003-V.

Positive Controls: NCI-H226 whole cell lysate: sc-364256.

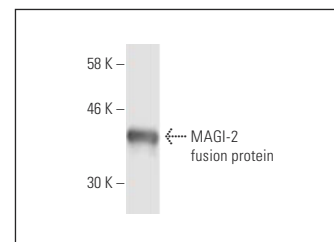
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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).

DATA



MAGI-2 (6F5): sc-517008. Western blot analysis of MAGI-2 expression in NCI-H226 whole cell lysate.



MAGI-2 (6F5): sc-517008. Western blot analysis of human recombinant MAGI-2 fusion protein.

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 for detailed protocols and support products.