

MAGI-3 (SLP-32): sc-58539

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

1. Anderson, J.M. 1996. Cell signalling: MAGUK magic. *Curr. Biol.* 6: 382-384.
2. Dobrosotskaya, I., Guy, R.K. and James, G.L. 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., Yuan, J., Margolis, R.L., Colomer, V., Duan, K., Kushi, J., Kaminsky, Z., Kleiderlein, J.J., Sharp, A.H. and Ross, C.A. 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., Woods, D.F., Stathakis, D.G. and Bryant, P.J. 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., Dowbenko, D., Spencer, S., Laura, R., Lee, J., Gu, Q. and Lasky, L.A. 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., Hepner, K., Castelino-Prabhu, S., Do, D., Kaye, M.B., Yuan, X.J., Wood, J., Ross, C., Sawyers, C.L. and Whang, Y.E. 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: Magi3 (mouse) mapping to 3 F2.2.

RESEARCH USE

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

SOURCE

MAGI-3 (SLP-32) is a mouse monoclonal antibody raised against amino acids 421-785 of MAGI-3 of rat origin.

PRODUCT

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

APPLICATIONS

MAGI-3 (SLP-32) is recommended for detection of MAGI-3 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Molecular Weight of MAGI-3: 150-165 kDa.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.