

# MAGI-1 (SS-5): sc-100326

## 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 C-terminals. Two variants, MAGI-1 $\alpha$  and MAGI-1 $\beta$ , 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.

## CHROMOSOMAL LOCATION

Genetic locus: MAGI1 (human) mapping to 3p14.1; Magi1 (mouse) mapping to 6 D1.

## SOURCE

MAGI-1 (SS-5) is a mouse monoclonal antibody raised against a partial recombinant protein mapping within amino acids 761-859 of MAGI-1 of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG $\kappa$  light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

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

## APPLICATIONS

MAGI-1 (SS-5) is recommended for detection of MAGI-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], 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).

Suitable for use as control antibody for MAGI-1 siRNA (h): sc-41999, MAGI-1 siRNA (m): sc-42000, MAGI-1 shRNA Plasmid (h): sc-41999-SH, MAGI-1 shRNA Plasmid (m): sc-42000-SH, MAGI-1 shRNA (h) Lentiviral Particles: sc-41999-V and MAGI-1 shRNA (m) Lentiviral Particles: sc-42000-V.

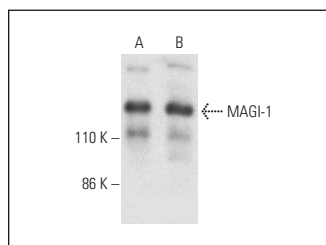
Molecular Weight of MAGI-1: 165 kDa.

Positive Controls: PC-12 cell lysate: sc-2250, mouse brain extract: sc-2253 or rat brain extract: sc-2392.

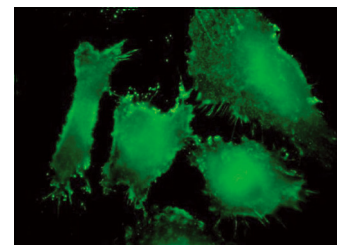
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



MAGI-1 (SS-5): sc-100326. Western blot analysis of MAGI-1 expression in mouse brain (A) and rat brain (B) tissue extracts.



MAGI-1 (SS-5): sc-100326. Immunofluorescence staining of paraformaldehyde-fixed HeLa cells showing membrane and cytoplasmic localization.

## SELECT PRODUCT CITATIONS

- Ni, J., et al. 2016. MAGI-1 interacts with nephrin to maintain slit diaphragm structure through enhanced Rap1 activation in podocytes. *J. Biol. Chem.* 291: 24406-24417.
- Wang, W., et al. 2019. MAGI1 mediates tumor metastasis through c-Myb/miR-520h/MAGI-1 signaling pathway in renal cell carcinoma. *Apoptosis* 24: 837-848.
- Abe, J.I., et al. 2019. MAGI-1 as a link between endothelial activation and ER stress drives atherosclerosis. *JCI Insight* 4: e125570.
- Abe, R.J., et al. 2020. p90RSK-MAGI-1 module controls endothelial permeability by post-translational modifications of MAGI-1 and Hippo pathway. *Front. Cardiovasc. Med.* 7: 542485.
- Carr, H.S., et al. 2021. The PDZ domain protein SYNJ2BP regulates GRK-dependent Sst2A phosphorylation and downstream MAPK signaling. *Endocrinology* 162: bqaa229.
- Gogl, G., et al. 2022. Quantitative fragmentomics allow affinity mapping of interactomes. *Nat. Commun.* 13: 5472.
- Catalán-Castorena, O., et al. 2024. Bioinformatics analysis of human papillomavirus 16 integration in cervical cancer: changes in MAGI-1 expression in premalignant lesions and invasive carcinoma. *Cancers* 16: 2225.

## RESEARCH USE

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