3050 Spruce Street
Saint Louis, Missouri 63103 USA
Telephone 800-325-5832 • (314) 771-5765
Fax (314) 286-7828
email: techserv@sial.com
sigma-aldrich.com

ProductInformation

ANTI-CASK/Lin-2
Developed in Rabbit
Affinity Isolated Antibody

Product Number **C 4856**

Product Description

Anti-CASK/Lin-2 is developed in rabbits using as immunogen a synthetic peptide corresponding to amino acids 393-409 of human CASK/Lin-2 conjugated to keyhole limpet hemocyanin (KLH). This sequence is conserved in mouse and rat. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-CASK/Lin-2 specifically recognizes human CASK/Lin-2 by immunoblotting and immunoprecipitation (112 kDa). Staining of Cask/Lin-2 by immunoblotting is inhibited by the immunizing peptide. Additional bands may be detected in some extract preparations. The product cross-reacts with dog, rat, and mouse CASK/Lin-2.

The MAGUK (Membrane-Associated Guanylate Kinase) family is comprised of a group of conserved proteins that act as molecular scaffolds for signaling pathway components at the plasma membrane of animal cells. They are found in tight and septate junctions in epithelial cells, in synaptic and neuromuscular junctions, and in red blood cells where they are involved in cell shape maintenance. MAGUKs contain multiple protein-protein interaction domains that enable recruitment and assembly of signaling and cytoskeletal molecules into larger complexes and promote protein clustering.[1]

The Lin-2-like MAGUK subfamily consists of proteins orthologous to *C. elegans* Lin-2 a protein required for EGF receptor localization and signaling. The mammalian protein CASK/Lin-2 (Calcium/Calmodulin-dependent Serine Kinase) has an N-terminal domain similar to calcium-calmodulin dependent protein kinase (CAM), a Lin-7 binding domain, a single PDZ domain, an SH3 domain, and a C-terminal GUK (guanylate kinase) homologous domain.[2]

CASK/Lin-2 seems to be ubiquitously expressed, but is predominant in the brain.[3,4] It localizes to the lateral and/or basal plasma membrane regions in epithelial cells.[2,3] CASK/Lin-2 is translocated into the nucleus to regulate gene expression.[5] It interacts via its PDZ domain with the cytosolic tail of the transmembrane cell surface heparin sulfate proteoglycan Syndecan-2. In neurons it interacts with neurexins.[3,6] In addition, CASK/Lin-2 is capable of interacting with the actin-binding band 4.1 protein, Mint-1/Lin-10, Veli/Lin-7 proteins, JAM, hDlg, and the nuclear Tbr-1 transcription factor.[5,7,8]

Reagent

Anti- CASK/Lin-2 is supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 1% bovine serum albumin and 15 mM sodium azide.

Antibody concentration: 1.0-1.5 mg/ml

Precautions and Disclaimer

Due to the sodium azide content, a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For prolonged storage, freeze in working aliquots at –20 °C. Repeated freezing and thawing is not recommended. Storage in frost-free freezers is also not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

For immunoblotting, a minimum working antibody dilution of 1:200 is recommended using a whole extract of human Jurkat acute T leukemia and dog MDCK kidney cells in a chemiluminescent detection assay.

For immunoprecipitation, a minimum working antibody concentration of 5-10 µg is recommended using a RIPA lysate of 2-4 x 10^5 dog MDCK kidney cells.

Note: In order to obtain the best results using different techniques and preparations, we recommend determining the optimal working dilutions by titration.

References

1. Craven, S.E., and Bredt, D.S., Cell, **93**, 495-498 (1998).
2. Bredt, D.S., Cell, **94**, 691-694 (1998).
3. Cohen, A.R., et al., J. Cell Biol., **142**, 129-138 (1998).
4. Hata, Y., et al., J. Neurosc., **16,** 2488-2494 (1996).
5. Hsueh, Y.P., et al., Nature, **404**, 298-302 (2000).
6. Hsueh, Y.P., et al., J. Cell Biol., **142**,139-151 (1998).
7. Borg, J.P., et al., J. Biol. Chem., **273**, 31633-31636 (1998).
8. Butz, S., et al., Cell, **94**, 773-782 (1998).

RM/KAA 04/02