

CASK (C-6): sc-13158

BACKGROUND

The MAGUK (membrane-associated guanylate kinase homologs) family of proteins contain multiple protein-binding domains and are involved in cell junction organization, tumor suppression, and signaling. CASK (also designated LIN-2) belongs to a MAGUK subfamily which is characterized by a novel domain structure that consists of a calcium/calmodulin-dependent protein kinase domain followed by PDZ, SH3 and guanylate kinase-like (GUK) domains. CASK is expressed in rat brain where it binds to cell-surface proteins, such as neurexin and syndecan, and is thought to be involved in signaling at neuronal synapses. CASK translocates to the nucleus and interacts with Tbr-1 to form a complex, which binds to a specific DNA sequence (the T-element), and induces the expression of specific genes, including Reelin. CASK displays a transcription regulation function, which appears crucial for cerebrocortical development.

CHROMOSOMAL LOCATION

Genetic locus: CASK (human) mapping to Xp11.4; Cask (mouse) mapping to X A1.1.

SOURCE

CASK (C-6) is a mouse monoclonal antibody raised against amino acids 353-459 of CASK of human origin.

PRODUCT

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

CASK (C-6) is available conjugated to agarose (sc-13158 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-13158 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-13158 PE), fluorescein (sc-13158 FITC), Alexa Fluor® 488 (sc-13158 AF488), Alexa Fluor® 546 (sc-13158 AF546), Alexa Fluor® 594 (sc-13158 AF594) or Alexa Fluor® 647 (sc-13158 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-13158 AF680) or Alexa Fluor® 790 (sc-13158 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

CASK (C-6) is recommended for detection of CASK of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:500), 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

CASK (C-6) is also recommended for detection of CASK in additional species, including equine, canine, bovine, porcine and avian.

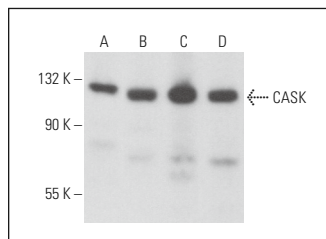
Suitable for use as control antibody for CASK siRNA (h): sc-29920, CASK siRNA (m): sc-29921, CASK shRNA Plasmid (h): sc-29920-SH, CASK shRNA Plasmid (m): sc-29921-SH, CASK shRNA (h) Lentiviral Particles: sc-29920-V and CASK shRNA (m) Lentiviral Particles: sc-29921-V.

Molecular Weight of CASK: 112 kDa.

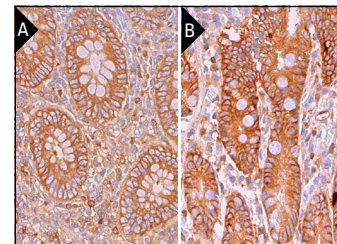
STORAGE

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

DATA



CASK (C-6): sc-13158. Western blot analysis of CASK expression in DU 145 (A) and AtT-20/D16V-F2 (B) whole cell lysates and rat brain (C) and human brain (D) tissue extracts.



CASK (C-6): sc-13158. Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix tissue showing cytoplasmic staining of glandular cells and lymphoid cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing membrane and cytoplasmic staining of glandular cells (B).

SELECT PRODUCT CITATIONS

- Qi, J., et al. 2005. CASK inhibits ECV304 cell growth and interacts with Id1. *Biochem. Biophys. Res. Commun.* 328: 517-521.
- Watkins, R.J., et al. 2013. A novel interaction between FRMD7 and CASK: evidence for a causal role in idiopathic infantile nystagmus. *Hum. Mol. Genet.* 22: 2105-2118.
- Porter, A.P., et al. 2019. The interaction between CASK and the tumour suppressor Dlg1 regulates mitotic spindle orientation in mammalian epithelia. *J. Cell Sci.* 132: jcs230086.
- Sheel, A., et al. 2020. Acheron/Larp6 is a survival protein that protects skeletal muscle from programmed cell death during development. *Front. Cell Dev. Biol.* 8: 622.
- Zhang, K., et al. 2021. CASK, APBA1, and STXBP1 collaborate during Insulin secretion. *Mol. Cell. Endocrinol.* 520: 111076.
- Gasparski, A.N., et al. 2023. mRNA location and translation rate determine protein targeting to dual destinations. *Mol. Cell* 83: 2726-2738.e9.
- Cheong, K.J.H., et al. 2024. CASK mediates oxidative stress-induced microglial apoptosis-inducing factor-independent parthanatos cell death via promoting PARP-1 hyperactivation and mitochondrial dysfunction. *Antioxidants* 13: 343.

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.