

MARK2 (C-16): sc-46607

BACKGROUND

Microtubule affinity-regulating kinase 2 (MARK2), also known as EMK1 (ELKL motif kinase 1) or Par1b, is a 788 amino acid protein that is a member of the protein kinase superfamily, MARK subfamily. Highly expressed in heart, brain, skeletal muscle and pancreas, MARK2 is essential for the asymmetric development of membrane domains around polarized epithelial cells. Activation of MARK2 by phosphorylation on Thr 208 allows the protein to modulate the building of a columnar versus a hepatic epithelial cell. MARK2 contains one KA1 (kinase-associated) domain, one protein kinase domain and one UBA domain. MARK2 is expressed as 14 isoforms produced by alternative splicing events. Some of these isoforms may function in graft rejection.

REFERENCES

- Marx, A., et al. 2006. Structural variations in the catalytic and ubiquitin-associated domains of microtubule-associated protein/microtubule affinity regulating kinase (MARK) 1 and MARK2. *J. Biol. Chem.* 281: 27586-27599.
- Dequiedt, F., et al. 2006. New role for hPar-1 kinases EMK and C-TAK1 in regulating localization and activity of class IIa histone deacetylases. *Mol. Cell. Biol.* 26: 7086-7102.
- Wang, J.W., et al. 2007. Activation of PAR-1 kinase and stimulation of τ phosphorylation by diverse signals require the tumor suppressor protein LKB1. *J. Neurosci.* 27: 574-581.
- Terabayashi, T., et al. 2007. Polarity-regulating kinase partitioning-defective 1/microtubule affinity-regulating kinase 2 negatively regulates development of dendrites on hippocampal neurons. *J. Neurosci.* 27: 13098-13107.
- Terabayashi, T., et al. 2008. Dishevelled-induced phosphorylation regulates membrane localization of Par1b. *Biochem. Biophys. Res. Commun.* 375: 660-665.

CHROMOSOMAL LOCATION

Genetic locus: MARK2 (human) mapping to 11q13.1; Mark2 (mouse) mapping to 19 A.

SOURCE

MARK2 (C-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of MARK2 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-46607 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

MARK2 (C-16) is recommended for detection of MARK2 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)], 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); may cross-react with MARK1 and MARK3.

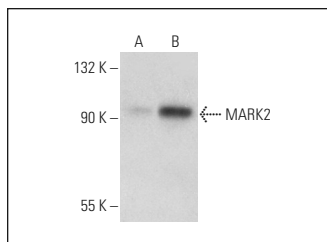
MARK2 (C-16) is also recommended for detection of MARK2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for MARK2 siRNA (h): sc-45793, MARK2 siRNA (m): sc-45794, MARK2 shRNA Plasmid (h): sc-45793-SH, MARK2 shRNA Plasmid (m): sc-45794-SH, MARK2 shRNA (h) Lentiviral Particles: sc-45793-V and MARK2 shRNA (m) Lentiviral Particles: sc-45794-V.

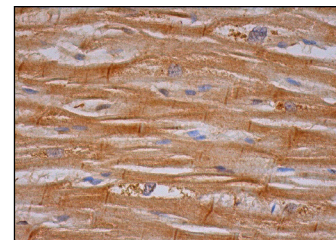
Molecular Weight of MARK2: 88 kDa.

Positive Controls: H4 cell lysate: sc-2408 or MARK2 (h): 293 Lysate: sc-172541.

DATA



MARK2 (C-16): sc-46607. Western blot analysis of MARK2 expression in non-transfected: sc-110760 (A) and human MARK2 transfected: sc-172541 (B) 293 whole cell lysates.



MARK2 (C-16): sc-46607. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic and membrane staining of myocytes.

SELECT PRODUCT CITATIONS

- Liu, Y. and Szaro, B.G. 2011. hnRNP K post-transcriptionally co-regulates multiple cytoskeletal genes needed for axonogenesis. *Development* 138: 3079-3090.

PROTOCOLS

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



Try **MARK2 (B-1): sc-365405**, our highly recommended monoclonal alternative to MARK2 (C-16).