

MARK2 (B-1): sc-365405

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

1. 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.
2. 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.
3. Wang, J.W., et al. 2007. Activation of PAR-1 kinase and stimulation of Tau phosphorylation by diverse signals require the tumor suppressor protein LKB1. *J. Neurosci.* 27: 574-581.
4. 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.

CHROMOSOMAL LOCATION

Genetic locus: MARK2 (human) mapping to 11q13.1.

SOURCE

MARK2 (B-1) is a mouse monoclonal antibody raised against amino acids 416-501 mapping within an internal region of MARK2 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MARK2 (B-1) is available conjugated to agarose (sc-365405 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365405 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365405 PE), fluorescein (sc-365405 FITC), Alexa Fluor[®] 488 (sc-365405 AF488), Alexa Fluor[®] 546 (sc-365405 AF546), Alexa Fluor[®] 594 (sc-365405 AF594) or Alexa Fluor[®] 647 (sc-365405 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-365405 AF680) or Alexa Fluor[®] 790 (sc-365405 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

MARK2 (B-1) is recommended for detection of MARK2 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

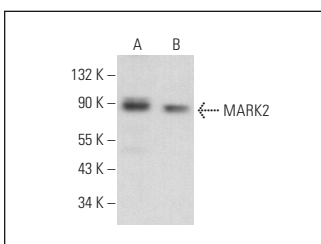
Molecular Weight of MARK2: 88 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203 or H4 cell lysate: sc-2408.

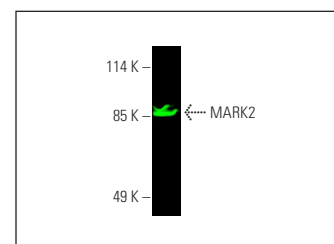
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BPHRP: sc-516102 or m-IgGκ BPHRP (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-IgGκ BPFITC: sc-516140 or m-IgGκ BPE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



MARK2 (B-1): sc-365405. Western blot analysis of MARK2 expression in Sol8 (A) and RAW 264.7 (B) whole cell lysates.



MARK2 (B-1): sc-365405. Near-Infrared western blot analysis of MARK2 expression in K-562 whole cell lysate. Blocked with UltraCruz[®] Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BPFITC 680: sc-516180.

SELECT PRODUCT CITATIONS

1. Eneling, K., et al. 2012. Salt-inducible kinase 1 regulates E-cadherin expression and intercellular junction stability. *FASEB J.* 26: 3230-3239.
2. Lu, Y.N., et al. 2021. MARK2 phosphorylates eIF2α in response to proteotoxic stress. *PLoS Biol.* 19: e3001096.

RESEARCH USE

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

Alexa Fluor[®] is a trademark of Molecular Probes, Inc., Oregon, USA