

MARK3 (F-6): sc-376116

BACKGROUND

MARK3 (MAP/microtubule affinity-regulating kinase 3), also known as C-TAK1 (Cdc25C-associated protein kinase 1), EMK-2 (ELKL motif kinase 2), protein kinase STK10 or serine/threonine-protein kinase p78, is a 753 amino acid peripheral membrane protein that phosphorylates Cdc25C on Serine 216 and is ubiquitously expressed in various human tissue and cell lines. Existing as six alternatively spliced isoforms, MARK3 belongs to the Ser/Thr protein kinase family and the protein kinase superfamily. MARK3 has been suggested to mediate the binding of the 14-3-3 proteins through its kinase activity and acts as a negative regulator of mitosis. The gene encoding MARK3 maps to human chromosome 14q32.3 and mouse chromosome 12 F1.

REFERENCES

1. Ono, T., et al. 1997. Assignment of MARK3 alias KP78 to human chromosome band 14q32.3 by *in situ* hybridization. *Cytogenet. Cell Genet.* 79: 101-102.
2. Peng, C.Y., et al. 1998. C-TAK1 protein kinase phosphorylates human Cdc25C on serine 216 and promotes 14-3-3 protein binding. *Cell Growth Differ.* 9: 197-208.
3. Müller, J., et al. 2001. C-TAK1 regulates Ras signaling by phosphorylating the MAPK scaffold, KSR1. *Mol. Cell* 8: 983-993.
4. Sun, T.Q., et al. 2001. PAR-1 is a Dishevelled-associated kinase and a positive regulator of Wnt signalling. *Nat. Cell Biol.* 3: 628-636.
5. Hurov, J.B., et al. 2004. Atypical PKC phosphorylates PAR-1 kinases to regulate localization and activity. *Curr. Biol.* 14: 736-741.
6. Lizcano, J.M., et al. 2004. LKB1 is a master kinase that activates 13 kinases of the AMPK subfamily, including MARK/PAR-1. *EMBO J.* 23: 833-843.

CHROMOSOMAL LOCATION

Genetic locus: MARK3 (human) mapping to 14q32.32; Mark3 (mouse) mapping to 12 F1.

SOURCE

MARK3 (F-6) is a mouse monoclonal antibody raised against amino acids 447-501 mapping within an internal region of MARK3 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.

MARK3 (F-6) is available conjugated to agarose (sc-376116 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376116 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376116 PE), fluorescein (sc-376116 FITC), Alexa Fluor® 488 (sc-376116 AF488), Alexa Fluor® 546 (sc-376116 AF546), Alexa Fluor® 594 (sc-376116 AF594) or Alexa Fluor® 647 (sc-376116 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376116 AF680) or Alexa Fluor® 790 (sc-376116 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

MARK3 (F-6) is recommended for detection of MARK3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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 MARK3 siRNA (h): sc-43649, MARK3 siRNA (m): sc-60087, MARK3 shRNA Plasmid (h): sc-43649-SH, MARK3 shRNA Plasmid (m): sc-60087-SH, MARK3 shRNA (h) Lentiviral Particles: sc-43649-V and MARK3 shRNA (m) Lentiviral Particles: sc-60087-V.

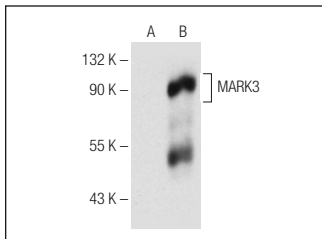
Molecular Weight of MARK3: 87 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, MARK3 (h): 293T Lysate: sc-114018 or TF-1 cell lysate: sc-2412.

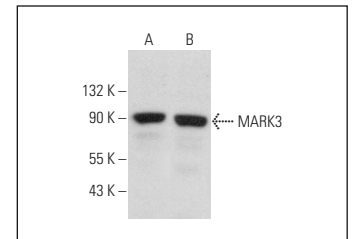
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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



MARK3 (F-6): sc-376116. Western blot analysis of MARK3 expression in non-transfected: sc-117752 (A) and human MARK3 transfected: sc-114018 (B) 293T whole cell lysates.



MARK3 (F-6): sc-376116. Western blot analysis of MARK3 expression in TF-1 (A) and MCF7 (B) whole cell lysates.

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.

PROTOCOLS

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