

Recombinant Mouse Mark2 Protein, Myc/DDK-tagged

Cat. No. Mark2-3960M Lot. No. (See product label)

SPECIFICATION

Product Overview

Purified recombinant protein of mouse full-length MAP/microtubule affinity regulating kinase 2 (Mark2), with C-terminal MYC/DDK tag, expressed in HEK293T cells.

Species

Mouse

Source

HEK293

Description

Serine/threonine-protein kinase. Involved in cell polarity and microtubule dynamics regulation. Phosphorylates CRTC2/TORC2, DCX, HDAC7, KIF13B, MAP2, MAP4 and RAB11FIP2. Phosphorylates the microtubule-associated protein MAPT/TAU. Plays a key role in cell polarity by phosphorylating the microtubule-associated proteins MAP2, MAP4 and MAPT/TAU at KXGS motifs, causing detachment from microtubules, and their disassembly. Regulates epithelial cell polarity by phosphorylating RAB11FIP2. Involved in the regulation of neuronal migration through its dual activities in regulating cellular polarity and microtubule dynamics, possibly by phosphorylating and regulating DCX. Regulates axogenesis by phosphorylating KIF13B, promoting interaction between KIF13B and 14-3-3 and inhibiting microtubule-dependent accumulation of KIF13B. Also required for neurite outgrowth and establishment of neuronal polarity. Regulates localization and activity of some histone deacetylases by mediating phosphorylation of HDAC7, promoting subsequent interaction between HDAC7 and 14-3-3 and export from the nucleus. Also acts as a positive regulator of the Wnt signaling pathway, probably by mediating phosphorylation of dishevelled proteins (DVL1, DVL2 and/or DVL3). Modulates the developmental decision to build a columnar versus a hepatic epithelial cell apparently

 Tel: 1-631-559-9269 1-516-512-3133

 Email: info@creative-biomart.com  Fax: 1-631-938-8127

 45-1 Ramsey Road, Shirley, NY 11967, USA

by promoting a switch from a direct to a transcytotic mode of apical protein delivery. Essential for the asymmetric development of membrane domains of polarized epithelial cells.

Molecular Mass	80.9 kDa
Purity	> 80% as determined by SDS-PAGE and Coomassie blue staining
Stability	Stable for 12 months from the date of receipt of the product under proper storage and handling conditions. Avoid repeated freeze-thaw cycles.
Storage	Store at -80 centigrade after receiving vials.
Concentration	>50 µg/mL as determined by microplate BCA method
Storage Buffer	25 mM Tris.HCl, pH 7.3, 100 mM glycine, 10% glycerol.

GENE INFORMATION

Gene Name	Mark2 MAP/microtubule affinity regulating kinase 2 [<i>Mus musculus</i> (house mouse)]
Official Symbol	Mark2
Synonyms	MARK2; MAP/microtubule affinity-regulating kinase 2; serine/threonine-protein kinase MARK2; PAR1 homolog b; ELKL motif kinase 1; Emk; EMK-1; Par-1; Par-1b; AU024026; mKIAA4207; KIAA4207
Gene ID	13728
mRNA Refseq	NM_001080388

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Protein Refseq NP_001073857

UniProt ID Q05512

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