

MARK4 Protein, Human

Cat. No.:	HY-P701808
Synonyms:	MARK4; MAP/microtubule affinity-regulating kinase 4; MAP/microtubule affinity-regulating kinase-like 1
Species:	Human
Source:	E. coli
Accession:	Q96L34 (N44-K370)
Gene ID:	57787
Molecular Weight:	

PROPERTIES

Appearance	Solution.
Formulation	Supplied as a 0.22 µm filtered solution of 50 mM Tris-HCl, pH7.5, 200 mM NaCl, 20% glycerol.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	Please use rapid thawing with running water to thaw the protein.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice.

DESCRIPTION

Background	<p>MARK4, a serine/threonine-protein kinase, plays a crucial role in diverse cellular processes. It phosphorylates microtubule-associated proteins, including MAPT/TAU, MAP2, and MAP4, leading to the reorganization of the microtubule network into bundles. Essential for the initiation of axoneme extension during cilium assembly, MARK4 regulates the centrosomal location of ODF2. Additionally, it contributes to cell cycle progression at the G1/S checkpoint and is implicated in neuronal cell survival. Beyond its cellular functions, MARK4 influences energy homeostasis by modulating satiety and metabolic rate. It promotes adipogenesis through JNK1 activation, inhibits the p38MAPK pathway, and triggers apoptosis via JNK1 activation. Furthermore, MARK4 negatively regulates the mTORC1 complex by phosphorylating RPTOR, disrupting its interaction with the RAGA/RRAGC heterodimer essential for mTORC1 activation. In the context of inflammasome activation, MARK4 participates in NLRP3 positioning along microtubules, mediating its recruitment to the microtubule organizing center.</p>
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Caution: Product has not been fully validated for medical applications. For research use only.

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