MELK Protein, Human

Cat. No.:	HY-P701810
Synonyms:	MELK; Maternal embryonic leucine zipper kinase; hMELK; Protein kinase Eg3; pEg3 kinase; Protein kinase PK38; hPK38; Tyrosine-protein kinase MELK
Species:	Human
Source:	E. coli
Accession:	Q14680 (D3-V330)
Gene ID:	9833
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.
Reconsititution	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	MELK, a serine/threonine-protein kinase, orchestrates a diverse array of cellular processes encompassing cell cycle regulation, stem cell self-renewal, apoptosis, and splicing control. Exhibiting a broad substrate specificity, MELK phosphorylates key proteins such as BCL2L14, CDC25B, MAP3K5/ASK1, and ZNF622. As an activator of apoptosis, MELK phosphorylates and activates MAP3K5/ASK1. In the realm of cell cycle regulation, MELK assumes a pivotal role by mediating the phosphorylation of CDC25B, facilitating its localization to the centrosome and spindle poles during mitosis. This kinase is indispensable for the proliferation of both embryonic and postnatal multipotent neural progenitors. MELK's impact on carcinogenesis extends to the phosphorylation and inhibition of BCL2L14, potentially influencing mammary carcinogenesis by impeding the pro-apoptotic function of BCL2L14. Moreover, MELK contributes to the inhibition of spliceosome assembly during mitosis through the phosphorylation of ZNF622, redirecting its localization to the nucleus. Notably, MELK's involvement in primitive hematopoiesis underscores its multifaceted regulatory role in fundamental cellular processes.

Caution: Product has not been fully validated for medical applications. For research use only.

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