Recombinant MELK protein (His tag)

Catalog Number	547309
Synonyms	hMELK; Protein kinase Eg3; pEg3 kinase; Protein kinase PK38; hPK38; Tyrosine-protein kinase MELK
Species	Human
Expression System	E. coli
Accession	Q14680
Molecular Weight	Predictes a molecular mass of 40.40 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 41 kDa band.

Product Information

Sequence Region	1-334
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>87%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 1-334 aa (Q14680) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	Recombinant hMELK (Maternal embryonic leucine zipper kinase) fragment (amino acids 1-334) encompassing the complete protein kinase domain. This high-purity human protein is an essential tool for investigating kinase activity, cell cycle regulation, apoptosis, and stem cell self-renewal mechanisms in life science research. Maternal embryonic leucine zipper kinase (hMELK) is a serine/threonine-protein kinase with broad substrate specificity involved in critical cellular processes including cell cycle regulation, stem cell self-renewal, apoptosis, and splicing regulation. The kinase phosphorylates multiple targets including BCL2L14, CDC25B, MAP3K5/ASK1, and ZNF622, acting as both an activator of apoptosis through MAP3K5/ASK1 activation and a regulator of cell cycle progression via CDC25B phosphorylation. hMELK plays a key role in cell proliferation and carcinogenesis, being required for proliferation of embryonic and postnatal multipotent neural progenitors. The protein is localized to the cell membrane as a peripheral membrane protein, and its inhibition of spliceosome assembly during mitosis through ZNF622 phosphorylation contributes to its diverse functional repertoire in cellular regulation.