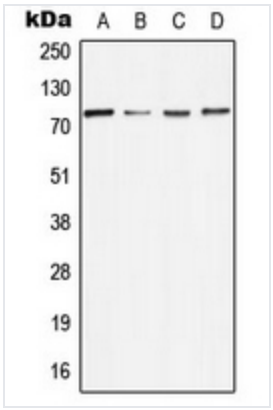
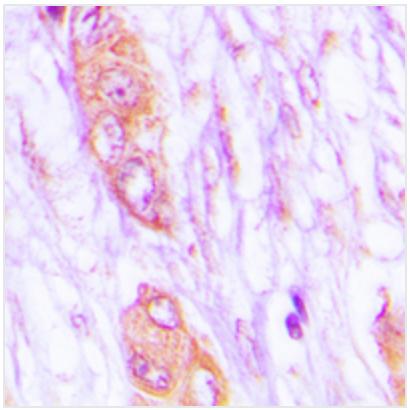
MELK Antibody – Polyclonal

PRODUCT OVERVIEW

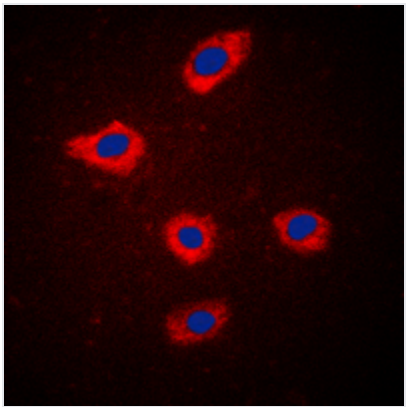
Product Name	MELK, Polyclonal Antibody
Full Product Name	Anti-MELK Antibody
Product Gene Name	anti-MELK antibody
Product Synonym Names	KIAA0175; Maternal embryonic leucine zipper kinase; hMELK; Protein kinase Eg3; pEg3 kinase; Protein kinase PK38; hPK38; Tyrosine-protein kinase MELK
Clonality	Polyclonal
Species Reactivity	Human, Mouse, Rat, Monkey
Form/Format	Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide.
Purity/Purification	The antibody was purified by immunogen affinity chromatography.
Specificity	Recognizes endogenous levels of MELK protein.
Preparation and Storage	Shipped at 4 degree C. Upon delivery aliquot and store at -20 degree C for one year. Avoid freeze/thaw cycles.
Antibody/Peptide Pairs	MELK peptide (MBS8235449) is used for blocking the activity of MELK antibody (MBS8212103)
Molecular Weight	69,116 Da
OMIM	607025
3D Structure	ModBase 3D Structure for Q14680
Source	Rabbit
Immunogen	KLH-conjugated synthetic peptide encompassing a sequence within the center region of human MELK. The exact sequence is proprietary.
Applications Tested/Suitable for anti-MELK antibody	Western Blot (WB),Immunohistochemistry (IHC), Immunofluorescence (IF), Immunocytochemistry (ICC)
Application Notes for anti-MELK antibody	WB (1/500 - 1/1000); IHC (1/100 - 1/200); IF (1/100 - 1/500); ICC (1/100 - 1/500)
Related Product Information for anti-MELK antibody	MBS8212103 is an antibody targeting MELK. Reactive in Human, Mouse, Rat, Monkey. Rabbit polyclonal antibody to MELK
Other Notes	Small volumes of anti-MELK antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.



Western Blot (WB) of anti-MELK antibody
Western blot analysis of MELK expression in MCF7 (A), NIH3T3 (B), mouse liver (C), rat liver (D) whole cell lysates.



Immunohistochemistry (IHC) of anti-MELK antibody
Immunohistochemical analysis of MELK staining in human lung cancer formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.



Immunofluorescence (IF) of anti-MELK antibody
Immunofluorescent analysis of MELK staining in MCF7 cells. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3% BSA-PBS and incubated overnight at 4 °C in a humidified chamber. Cells were washed with PBST and incubated with a DyLight 594-conjugated secondary antibody (red) in PBS at room temperature in the dark. DAPI was used to stain the cell nuclei (blue).

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for MELK. It may not necessarily be applicable to this product.

NCBI GI #	375493532
NCBI GeneID	9833
NCBI Accession #	NP_001243614.1
UniProt Primary Accession #	Q14680
UniProt Secondary Accession #	A6P3A7; A6P3A8; B1AMQ6; B7Z1E6; B7Z5M5; B7Z6Q7; B7Z6R8; B7Z6Y0; B7Z7Q1; D3DRP8; F5H0Y0
UniProt Related Accession #	Q14680
GenBank Nucleotide #	NM_001256685.1
NCBI Official Full Name	maternal embryonic leucine zipper kinase isoform 2
NCBI Official Synonym Full Names	maternal embryonic leucine zipper kinase
NCBI Official Symbol	MELK

NCBI Official Synonym Symbols	HPK38
UniProt Protein Name	Maternal embryonic leucine zipper kinase
UniProt Synonym Protein Names	Protein kinase Eg3; pEg3 kinase; Protein kinase PK38; hPK38; Tyrosine-protein kinase MELK (EC:2.7.10.2)
Protein Family	Maternal embryonic leucine zipper kinase
UniProt Gene Name	MELK
UniProt Synonym Gene Names	KIAA0175; hMELK; pEg3 kinase; hPK38
UniProt Entry Name	MELK_HUMAN
NCBI Protein Information	maternal embryonic leucine zipper kinase
UniProt Comments for MELK	MELK: Serine/threonine-protein kinase involved in various processes such as cell cycle regulation, self-renewal of stem cells, apoptosis and splicing regulation. Has a broad substrate specificity; phosphorylates BCL2L14, CDC25B, MAP3K5/ASK1 and ZNF622. Acts as an activator of apoptosis by phosphorylating and activating MAP3K5/ASK1. Acts as a regulator of cell cycle, notably by mediating phosphorylation of CDC25B, promoting localization of CDC25B to the centrosome and the spindle poles during mitosis. Plays a key role in cell proliferation and carcinogenesis. Required for proliferation of embryonic and postnatal multipotent neural progenitors. Phosphorylates and inhibits BCL2L14, possibly leading to affect mammary carcinogenesis by mediating inhibition of the pro-apoptotic function of BCL2L14. Also involved in the inhibition of spliceosome assembly during mitosis by phosphorylating ZNF622, thereby contributing to its redirection to the nucleus. May also play a role in primitive hematopoiesis. Monomer. Interacts with ZNF622 and PPP1R8. Up-regulated in many cancers cells. Up-regulated upon treatment with radiation or 5-fluorouracil (5-FU) in colorectal cancer cells, suggesting that it might be associated with increased resistance of colorectal cells against radiation and 5- FU. Down-regulated upon siomycin A, a thiazole antibiotic, treatment, leading to inhibit tumor growth in vivo. Expressed in placenta, kidney, thymus, testis, ovary and intestine. Activated by autophosphorylation of the T-loop at Thr-167 and Ser-171: in contrast to other members of the SNF1 subfamily, phosphorylation at Thr-167 is not mediated by STK11/LKB1 but via autophosphorylation instead. Inhibited by calcium-binding. Kinase activity is also regulated by reducing agents: dithiothreitol (DTT) or reduced glutathione are required for kinase activity in vitro; such dependence is however not due to the presence of disulfide bonds. Belongs to the protein kinase superfamily. CAMK Ser/Thr protein kinase family. SNF1 subfamily. Protein type: EC 2.7.10.2; RNA splicing; Protein kinase, Ser/Thr (non-receptor); Kinase, protein; EC 2.7.11.1; Protein kinase, CAMK; CAMK group; CAMKL family; MELK subfamily Chromosomal Location of Human Ortholog: 9p13.2 Cellular Component: membrane; plasma membrane; cell cortex Molecular Function: protein serine/threonine kinase activity; protein binding; non-membrane spanning protein tyrosine kinase activity; calcium ion binding; lipid binding; ATP binding Biological Process: cell proliferation; peptidyl-tyrosine phosphorylation; apoptosis; positive regulation of apoptosis; protein amino acid autophosphorylation; hemopoiesis; G2/M transition of mitotic cell cycle; induction of apoptosis by oxidative stress
Research Articles on MELK	**1.** insight has been brought by the discovery of a protein complex of FOXM1 with the mitotic kinase MELK in cancer stem cells in brain cancers, as this protein complex appears to be cancer-specific
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