abcam

ab129373

Anti-MELK antibody [2G2]

Key facts

Isotype	IgG2a
Host species	Mouse
Storage buffer	Preservative: 0.05% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Synthetic Peptide within Human MELK aa 600 to C-terminus. The exact immunogen used to generate this antibody is proprietary information. Database link Q14680
Clone number	2G2
Purification technique	Affinity purification Protein G
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from tissue culture supernatant.

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1/200 - 1/400

Notes	ab170191 - Mouse monoclonal IgG2a, is suitable for use as an isotype control with this antibody.

Predicted

Species	Mouse, Cow, Xenopus laevis, Zebrafish, Xenopus tropicalis
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/200 - 1/1000
Notes	-

Predicted

Species	Mouse, Cow, Xenopus laevis, Zebrafish, Xenopus tropicalis
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/200 - 1/1000
Notes	-

Predicted

Species	Mouse, Cow, Xenopus laevis, Zebrafish, Xenopus tropicalis
Dilution info	-
Notes	-

Target data

See full target information MELK

Function	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.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C

Notes

This product was changed from ascites to supernatant. Lot no's high than GR248807-19 are from Tissue Culture Supernatant

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Maternal embryonic leucine zipper kinase commonly referred to as MELK is a serine/threonine protein kinase with a molecular mass of about 74 kDa. MELK is broadly expressed in both human and animal tissues with significant presence in embryonic and adult stem cells. Researchers often recognize it as MELK or MELK-0A21 in studies. The protein is characterized by its regulation of cell division and apoptosis making it an important player in cellular proliferation.

Biological function summary	MELK regulates signals that control the cell cycle apoptosis and embryonic development. MELK works as a component of complexes involved in maintaining cellular homeostasis. The protruding roles involve influencing cellular architecture and governance of stem cell maintenance. Studies in animal models show MELK involvement in maintaining pluripotency and regulation during the development phase.
Pathways	MELK participates in key processes such as the cell cycle and apoptosis pathways. Its diverse functionality connects MELK to proteins like Bcl-2-associated death promoter (BAD) and p53 which further influence main cellular events. These pathways and interactions make MELK a target of interest in the study of cellular growth and programmed cell death.
Associated diseases and disorders	Researchers link MELK to cancer and neurodegenerative diseases. The overexpression of MELK is frequently observed in various cancer types making it relevant to oncogenesis. Studies examine its relation to proteins like cyclin-dependent kinases (CDKs) and survivin in cancer progression. Additionally MELK-0A21 variants may offer insights in disorders like Glioblastoma where abnormal MELK activity aligns with disease aggression.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

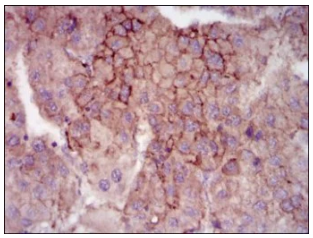
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

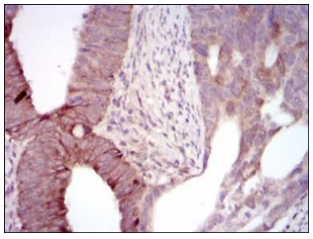
4 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MELK antibody [2G2] (ab129373)

MELK Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-MELK antibody

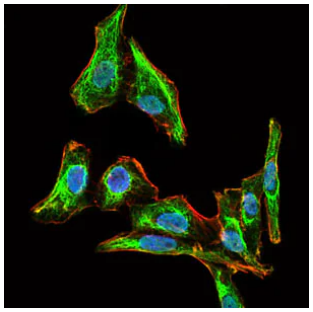
ab129373 at 1/200 dilution staining MELK in paraffin-embedded liver cancer tissue by immunohistochemistry, with DAB staining.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MELK antibody [2G2] (ab129373)

MELK Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-MELK antibody

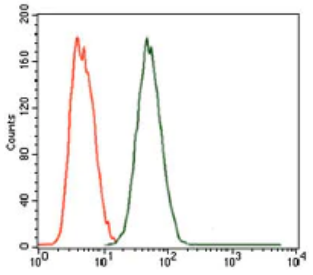
ab129373 at 1/200 dilution staining MELK in paraffin-embedded liver cancer tissue by immunohistochemistry, with DAB staining.



Immunocytochemistry/ Immunofluorescence - Anti-MELK antibody [2G2] (ab129373)

MELK Immunocytochemistry/ Immunofluorescence staining using mouse Anti-MELK antibody

ab129373 at 1/200 dilution staining MELK (green) in HepG2 cells by immunofluorescence. DNA is stained with DRAQ fluorescent dye (blue) and actin filaments with Alexa Fluor-555 phalloidin (red).



Flow Cytometry - Anti-MELK antibody [2G2] (ab129373)

MELK Flow Cytometry staining using mouse Anti-MELK antibody

ab129373 at 1/200 dilution (green) or negative control (red) staining MELK in MCF-7 cells by flow cytometry.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.