abcam

ab187652

Anti-MCAK antibody [EPR14838]

Recombinant | RabMAb | KO Validated | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR14838
Purification technique	Affinity purification Protein A
Concentration	1.32 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Human
Dilution info	1/1000 - 1/2000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/1000
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Target data

See full target information KIF2C

Function	In complex with KIF18B, constitutes the major microtubule plus-end depolymerizing activity in mitotic cells (PubMed:21820309). Regulates the turnover of microtubules at the kinetochore and functions in chromosome segregation during mitosis (PubMed:19060894). Plays a role in chromosome congression and is required for the lateral to end-on conversion of the chromosome-microtubule attachment (PubMed:23891108).

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

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

Activity summary	The MCAK protein also known as KIF2C (kinesin family member 2C) is a motor protein that makes depolymerization of microtubules. It serves an important role in the regulation of microtubule dynamics during mitosis. MCAK has a molecular mass of approximately 81 kDa. Expression of MCAK is mostly found in actively dividing cells such as those in tissues with high turnover rates including the skin intestinal lining and specific tumors. This protein is critical for the proper formation and functioning of the mitotic spindle during cell division.
Biological function summary	The MCAK protein contributes to accurate chromosome segregation. MCAK performs its functions by binding to microtubule ends and removing tubulin subunits thereby aiding in microtubule disassembly. It functions within the mitotic spindle apparatus and ensures that chromosomes align properly and evenly separate to opposite poles of the dividing cell. This activity is not part of a complex but acts independently to correct improper microtubule attachments.
Pathways	MCAK plays a significant role in mitotic and cell cycle pathways. It coordinates with other proteins like Aurora B kinase which is involved in correcting improper kinetochore-microtubule attachments to maintain chromosome stability during mitosis. MCAK interacts with proteins controlling cell cycle checkpoints overlapping with pathways ensuring cells do not progress with errors in chromosome segregation.
Associated diseases and disorders	Aberrant regulation of the MCAK protein can lead to chromosomal instability often observed in cancers such as colorectal and breast cancer. This instability can drive tumorigenesis where loss of proper chromosome segregation leads to aneuploidy and cancer progression. In these cancers MCAK may interact with other proteins such as Aurora kinases revealing potential therapeutic targets for intervention in malignancies with defective mitotic processes.

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.

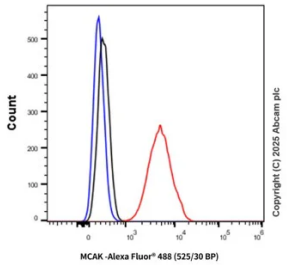
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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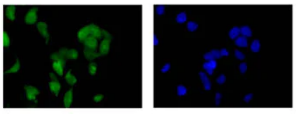
5 product images



Flow Cytometry (Intracellular) - Anti-MCAK antibody [EPR14838] (ab187652)

MCAK Flow Cytometry (Intracellular) staining of HeLa (human cervix adenocarcinoma epithelial cell) cells using rabbit Anti-MCAK antibody

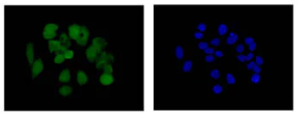
Intracellular flow cytometric analysis of 4% paraformaldehyde fixed, 90% methanol permeabilised HeLa (human cervix adenocarcinoma epithelial cell) cells labeling MCAK with ab187652 at 1/1000 dilution (Red). Isotype control (ab172730) (black), Unlabelled control (Cells without incubation with primary antibody and secondary antibody) (blue). Secondary antibody - Goat anti-Rabbit IgG H&L (Alexa Fluor® 488, ab150081) preadsorbed used at 1/5000 dilution.



Immunocytochemistry/ Immunofluorescence - Anti-MCAK antibody [EPR14838] (ab187652)

MCAK Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-MCAK antibody

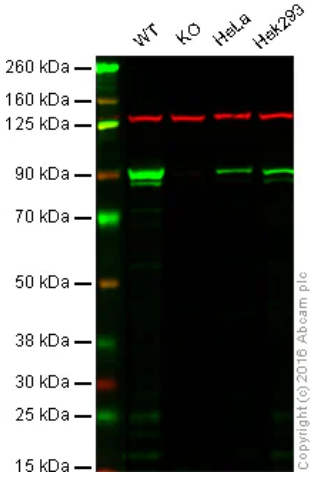
Immunofluorscence analysis of HeLa cells labeling MCAK with ab187652 at 1/100 dilution. Goat anti rabbit IgG (Alexa Fluor®488) secondary antibody at 1/200 dilution. Counter-stained with Dapi.



Immunocytochemistry/ Immunofluorescence - Anti-MCAK antibody [EPR14838] (ab187652)

MCAK Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-MCAK antibody

Immunofluorscence analysis of MCF7 cells labeling MCAK with ab187652 at 1/100 dilution. Goat anti rabbit IgG (Alexa Fluor®488) secondary antibody at 1/200 dilution. Counter-stained with Dapi.



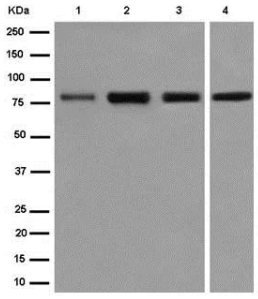
Western blot - Anti-MCAK antibody [EPR14838] (ab187652)

MCAK Western blot staining using rabbit Anti-MCAK antibody

Lane 1: Wild type HAP1 whole cell lysate (20 µg)
Lane 2: MCAK knockout HAP1 whole cell lysate (20 µg)
Lane 3: HeLa whole cell lysate (20 µg)
Lane 4: HEK293 whole cell lysate (20 µg)
Lanes 1 - 4: Merged signal (red and green). Green - ab187652 observed at 90 kDa. Red - loading control, ab18058, observed at 130 kDa.
ab187652 was shown to specifically react with MCAK when MCAK knockout samples were used. Wild-type and MCAK knockout samples were subjected to SDS-PAGE. ab187652 and ab18058 (Mouse anti Vinculin loading control) were incubated overnight at 4°C at 1000 dilution and 1/10000 dilution respectively. Blots were developed with 800CW Goat anti Rabbit and 680CW Goat anti Mouse secondary antibodies at 1/10000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-MCAK antibody [EPR14838] (ab187652)

Predicted band size: 81 kDa



Western blot - Anti-MCAK antibody [EPR14838] (ab187652)

All lanes:
Western blot - Anti-MCAK antibody [EPR14838] (ab187652) at 1/1000 dilution

Lane 1:
MCF7 cell lysate at 20 µg

Lane 2:
293T (Human embryonic kidney epithelial cell) cell lysate at 20 µg

Lane 3:
Hela cell lysate at 20 µg

Lane 4:
K562 cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Developed using the ECL technique.

Predicted band size: 81 kDa

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