abcam

ab195037

Anti-MEK3 antibody [EPR17345-104]

Recombinant | RabMAb | KO Validated

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	EPR17345-104
Purification technique	Affinity purification Protein A
Concentration	1.42 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/90
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/5000
Notes	-

Species	Rat
Dilution info	1/5000
Notes	-

Species	Human
Dilution info	1/5000
Notes	-

ICC/IF

Tested

Species	Mouse
Dilution info	1/250
Notes	-

Expected

Species	Human, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt (Intra)

Tested

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

Expected

Species	Human, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	1/500
Notes	-

Species	Rat
Dilution info	1/500
Notes	-

Species	Human
Dilution info	1/500
Notes	-

Target data

See full target information MAP2K3

Function	Dual specificity kinase. Is activated by cytokines and environmental stress in vivo. Catalyzes the concomitant phosphorylation of a threonine and a tyrosine residue in the MAP kinase p38. Part of a signaling cascade that begins with the activation of the adrenergic receptor ADRA1B and leads to the activation of MAPK14.

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	MEK3 also known as MAP2K3 is a kinase that plays a significant mechanical role within cells. It is part of the MAP kinase family sharing functions with enzymes like MEK6. MEK3 has a molecular mass of approximately 38 kDa and is localized in cytoplasmic regions of various cell types. This protein is expressed in a wide range of tissues indicating its diverse functional roles across different biological systems.
Biological function summary	MEK3 is involved in the phosphorylation cascade within the mitogen-activated protein kinase (MAPK) pathway. It often exists as part of a complex working alongside other kinases to activate p38 MAPK which then regulates gene expression. The involvement of MEK3 in this signaling cascade influences processes such as cellular stress response and inflammation. Its ability to

	modulate these processes makes MEK3 an important component in maintaining cellular homeostasis.
Pathways	MEK3 functions as an essential link within the stress-activated pathways like the MAPK signaling pathway. It phosphorylates and activates the p38 MAPK pathway therefore regulating activities related to cellular stress and inflammatory responses. MEK3 works in conjunction with related kinases such as MEK6 to propagate the MAPK signaling cascade further emphasizing its important role in these pathways.
Associated diseases and disorders	MEK3 has a documented involvement in inflammatory conditions and cancer. Its role in activating the p38 MAPK pathway connects it to inflammatory diseases where dysregulated signaling may lead to excessive inflammation. Furthermore aberrant MEK3 activity is associated with certain cancers as it affects cell proliferation and survival. MEK3's interactions with other kinases like MEK6 underline its involvement in these pathological processes making it a potential target for therapeutic intervention.

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

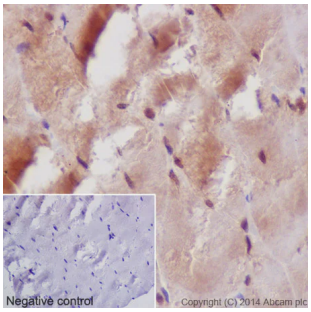
We do not recommend this combination. It is not covered by our product promise.

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.

12 product images



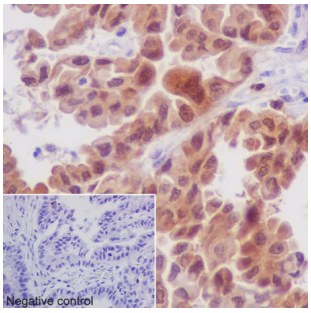
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MEK3 antibody [EPR17345-104] (ab195037)

MEK3 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-MEK3 antibody

Immunohistochemical analysis of paraffin-embedded Human skeletal muscle tissue labeling MEK3 with ab195037 at 1/500 dilution followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) secondary at 1/500 dilution. Cytoplasmic and nucleus staining on Human skeletal muscle is observed. Counter stained with Hematoxylin.
Negative control: Using PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

1:Ben-Levy R,et.al.(1998) Nuclear export of the stress-activated protein kinase p38 mediated by its substrate MAPKAP kinase-2. Curr Biol, 8(19):1049-1057.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

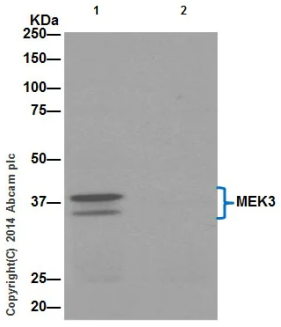


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MEK3 antibody [EPR17345-104] (ab195037)

MEK3 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-MEK3 antibody

Immunohistochemical analysis of paraffin-embedded Human lung adenocarcinoma tissue labeling MEK3 with ab195037 at 1/500 dilution followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) secondary at 1/500 dilution. Cytoplasmic and nuclear staining on cancer cells of Human lung adenocarcinoma is observed. Counter stained with Hematoxylin.
Negative control: Using PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



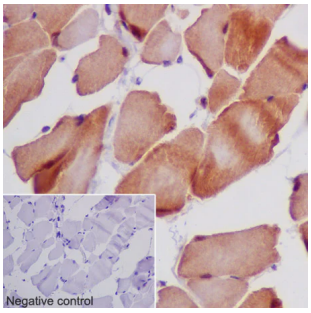
Immunoprecipitation - Anti-MEK3 antibody [EPR17345-104] (ab195037)

MEK3 was immunoprecipitated from 1mg of HeLa (Human epithelial cells from cervix adenocarcinoma) whole cell extract with ab195037 at 1/90 dilution. Western blot was performed from the immunoprecipitate using ab195037 at 1/1000 dilution. Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG, was used as secondary antibody at 1/1500 dilution. Lane 1: HeLa whole cell extract. Lane 2: PBS instead of HeLa whole cell extract.
Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Based on the sequence analysis, ab195037 recognizes 3 isoforms of MEK3 ranging from 36kDa to 40KDa. The multi-bands should be MEK3 isoforms.

All lanes:
Immunoprecipitation - Anti-MEK3 antibody [EPR17345-104] (ab195037)

Predicted band size: 39 kDa

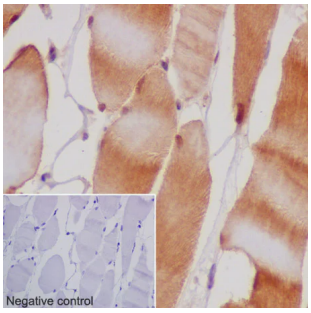


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MEK3 antibody [EPR17345-104] (ab195037)

MEK3 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-MEK3 antibody

Immunohistochemical analysis of paraffin-embedded Mouse skeletal muscle tissue labeling MEK3 with ab195037 at 1/500 dilution followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) secondary at 1/500 dilution. Cytoplasmic and nuclear staining on mouse skeletal muscle is observed. Counter stained with Hematoxylin.
Negative control: Using PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

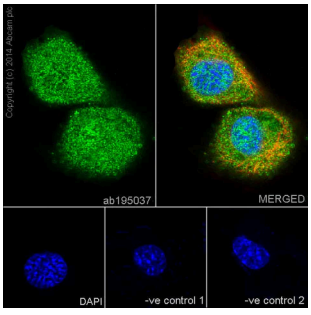


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MEK3 antibody [EPR17345-104] (ab195037)

MEK3 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-MEK3 antibody

Immunohistochemical analysis of paraffin-embedded Rat skeletal muscle tissue labeling MEK3 with ab195037 at 1/500 dilution followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) secondary at 1/500 dilution. Cytoplasmic and nuclear staining on rat skeletal muscle is observed. Counter stained with Hematoxylin.
Negative control: Using PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

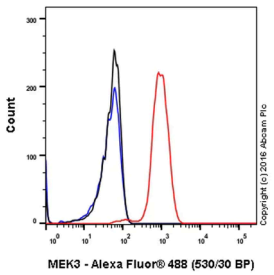
Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-MEK3 antibody [EPR17345-104] (ab195037)

MEK3 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-MEK3 antibody

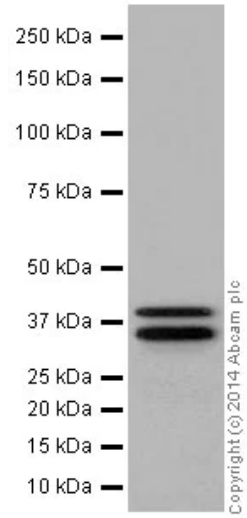
Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized NIH/3T3 (Mouse embyro fibroblast cells) cells labeling MEK3 with ab195037 at 1/250 dilution, followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/500 dilution (green). Confocal image showing both nuclear and cytoplasmic staining on NIH/3T3 cell line. The nuclear counter stain is DAPI (blue). Tubulin is detected with ab7291 (anti-Tubulin mouse mAb) at 1/1000 dilution and ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution (red).
The negative controls are as follows:
-ve control 1: ab195037 at 1/250 dilution followed by ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution.
-ve control 2: ab7291 (anti-Tubulin mouse mAb) at 1/1000 dilution followed by ab150077 (Alexa Fluor®488 Goat Anti-Rabbit IgG H&L) at 1/500 dilution.



Flow Cytometry (Intracellular) - Anti-MEK3 antibody [EPR17345-104] (ab195037)

MEK3 Flow Cytometry (Intracellular) staining using rabbit Anti-MEK3 antibody

Intracellular Flow Cytometry analysis of NIH/3T3 (mouse embryo) labelling MEK3 with purified ab195037 at 1/1000 (red). Cells were fixed with 4% paraformaldehyde and permeabilised with 90% methanol. Alexa Fluor® 488 goat anti-rabbit IgG (1/2000) was used as the secondary antibody. Black - Isotype control, rabbit monoclonal IgG. Blue - Unlabelled control, cells without incubation with primary and secondary antibodies.



Western blot - Anti-MEK3 antibody [EPR17345-104] (ab195037)

MEK3 Western blot staining of Human skeletal muscle lysates using rabbit Anti-MEK3 antibody

Blocking/Dilution buffer: 5% NFDM/TBST.

Based on the sequence analysis, ab195037 recognizes 3 isoforms of MEK3 ranging from 36kDa to 40KDa. The multi-bands should be MEK3 isoforms.

All lanes:
Western blot - Anti-MEK3 antibody [EPR17345-104] (ab195037) at 1/5000 dilution

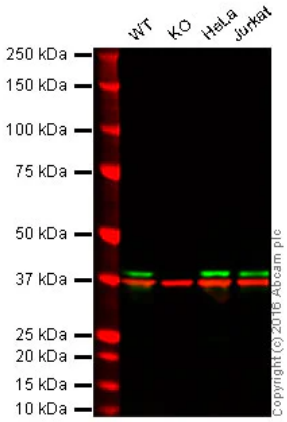
All lanes:
Human skeletal muscle lysates at 10 µg

Secondary

All lanes:
Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/1000 dilution

Predicted band size: 39 kDa

Observed band size: 34 kDa, 39 kDa



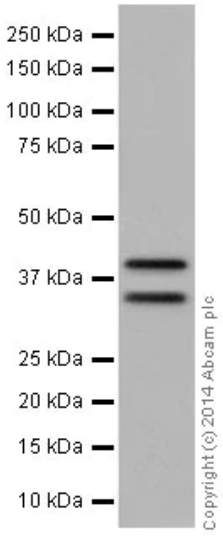
Western blot - Anti-MEK3 antibody [EPR17345-104] (ab195037)

MEK3 Western blot staining using rabbit Anti-MEK3 antibody

Lane 1: Wild-type HAP1 cell lysate (20 µg)
Lane 2: MEK3 knockout HAP1 cell lysate (20 µg)
Lane 3: HeLa cell lysate (20 µg)
Lane 4: Jurkat cell lysate (20 µg)
Lanes 1 - 4: Merged signal (red and green). Green - ab195037 observed at 40 kDa. Red - loading control, ab8245, observed at 37 kDa.

ab195037 was shown to specifically react with MEK3 when MEK3 knockout samples were used. Wild-type and MEK3 knockout samples were subjected to SDS-PAGE. ab195037 and ab8245 (loading control to GAPDH) were both diluted to 1/5000 and 1/10000 respectively and incubated overnight at 4°C. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (ab216776) secondary antibodies at 1/10000 dilution for 1 hour at room temperature before imaging.
All lanes:
Western blot - Anti-MEK3 antibody [EPR17345-104] (ab195037)

Predicted band size: 39 kDa



Western blot - Anti-MEK3 antibody [EPR17345-104] (ab195037)

Blocking/Dilution buffer: 5% NFDM/TBST.

Based on the sequence analysis, ab195037 recognizes 3 isoforms of MEK3 ranging from 36kDa to 40KDa. The multi-bands should be MEK3 isoforms.

All lanes:
Western blot - Anti-MEK3 antibody [EPR17345-104] (ab195037) at 1/50000 dilution

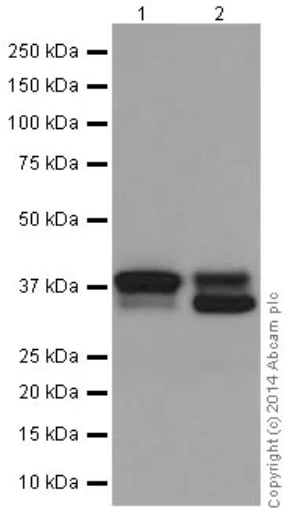
All lanes:
HepG2 (Human liver hepatocellular carcinoma) whole cell lysates at 10 µg

Secondary

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

Predicted band size: 39 kDa

Observed band size: 34 kDa, 39 kDa



Western blot - Anti-MEK3 antibody [EPR17345-104] (ab195037)

Blocking/Dilution buffer: 5% NFDM/TBST.

Based on the sequence analysis, ab195037 recognizes 3 isoforms of MEK3 ranging from 36kDa to 40KDa. The multi-bands should be MEK3 isoforms.

All lanes:
Western blot - Anti-MEK3 antibody [EPR17345-104] (ab195037) at 1/10000 dilution

Lane 1:
HeLa (Human epithelial cells from cervix adenocarcinoma) whole cell lysates at 20 µg

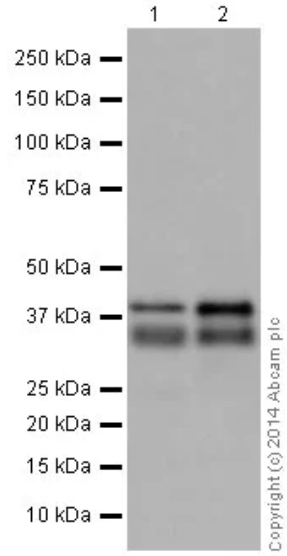
Lane 2:
MCF7 (Human breast adenocarcinoma cell line) whole cell lysates at 20 µg

Secondary

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

Predicted band size: 39 kDa

Observed band size: 34 kDa, 39 kDa



Western blot - Anti-MEK3 antibody [EPR17345-104] (ab195037)

Blocking/Dilution buffer: 5% NFDM/TBST.

Based on the sequence analysis, ab195037 recognizes 3 isoforms of MEK3 ranging from 36kDa to 40KDa. The multi-bands should be MEK3 isoforms.

All lanes:
Western blot - Anti-MEK3 antibody [EPR17345-104] (ab195037) at 1/10000 dilution

Lane 1:
Mouse spleen lysates at 10 µg

Lane 2:
Rat spleen lysates at 10 µg

Secondary

All lanes:
Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/1000 dilution

Predicted band size: 39 kDa

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