abcam

ab183040

Anti-MK-3 antibody [EPR13969]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 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	EPR13969
Purification technique	Affinity purification Protein A
Concentration	0.529 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/40 - 1/60
Notes	-

WB

Tested

Species	Human
Dilution info	1/10000 - 1/50000
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/100
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Target data

See full target information MAPKAPK3

Function

Stress-activated serine/threonine-protein kinase involved in cytokines production, endocytosis, cell migration, chromatin remodeling and transcriptional regulation. Following stress, it is phosphorylated and activated by MAP kinase p38-alpha/MAPK14, leading to phosphorylation of substrates. Phosphorylates serine in the peptide sequence, Hyd-X-R-X(2)-S, where Hyd is a large hydrophobic residue. MAPKAPK2 and MAPKAPK3, share the same function and substrate specificity, but MAPKAPK3 kinase activity and level in protein expression are lower compared to MAPKAPK2. Phosphorylates HSP27/HSPB1, KRT18, KRT20, RCSD1, RPS6KA3, TAB3 and TTP/ZFP36. Mediates phosphorylation of HSP27/HSPB1 in response to stress, leading to dissociate HSP27/HSPB1 from large small heat-shock protein (sHsps) oligomers and impair their chaperone activities and ability to protect against oxidative stress effectively. Involved in inflammatory response by regulating tumor necrosis factor (TNF) and IL6 production post-transcriptionally: acts by phosphorylating AU-rich elements (AREs)-binding proteins, such as TTP/ZFP36, leading to regulate the stability and translation of TNF and IL6 mRNAs. Phosphorylation of TTP/ZFP36, a major post-transcriptional regulator of TNF, promotes its binding to 14-3-3 proteins and reduces its ARE mRNA affinity leading to inhibition of dependent degradation of ARE-containing transcript. Involved in toll-like receptor signaling pathway (TLR) in dendritic cells: required for acute TLR-induced macropinocytosis by phosphorylating and activating RPS6KA3. Also acts as a modulator of Polycomb-mediated repression.

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	MK-3 also known as MAP kinase-activated protein kinase 3 is a serine/threonine kinase with a mass of approximately 43 kDa. It is widely expressed across various tissues including the brain heart and skeletal muscle. Mechanically MK-3 transduces signals from activated MAP kinases and phosphorylates downstream targets influencing their function and stability. This activity is central to many cellular processes particularly those related to responses to external stimuli.
Biological function summary	MK-3 functions as part of the MAPK signaling cascade and phospho-regulates different substrates that influence cell differentiation and stress responses. The protein interacts within complexes that mediate cellular responses to growth factors and various extracellular signals. MK-3's enzymatic activity modulates pathways involved in inflammation and apoptosis which are essential for maintaining cellular homeostasis and responding to stress.

Pathways	MK-3 plays a significant role in the MAPK and SAPK/JNK pathways. These pathways help regulate responses to environmental stressors and cytokine signaling. MK-3 is closely related to other kinases like p38 MAPK and JNK which collaboratively modulate cellular stress responses. These pathways are important for facilitating communication between extracellular stimuli and intracellular actions.
Associated diseases and disorders	MK-3 has connections to inflammatory conditions and cancer. Inflammatory diseases such as rheumatoid arthritis involve altered MAPK signaling where MK-3 interacts with proteins such as cytokines that promote inflammation. In cancer aberrant MK-3 activity can support tumor progression by affecting apoptosis and cell cycle regulation linking to proteins like p53 that control cell division and death.

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

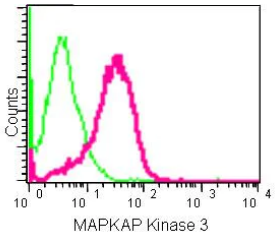
We do not recommend this combination. It is not covered by our product promise.

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

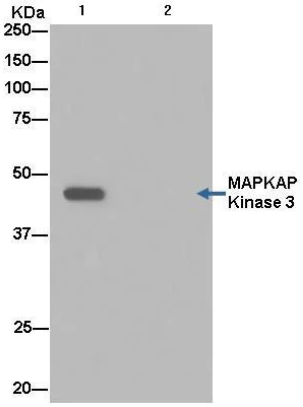


Flow Cytometry (Intracellular) - Anti-MK-3 antibody [EPR13969] (ab183040)

MK-3 Flow Cytometry (Intracellular) staining using rabbit Anti-MK-3 antibody

Intracellular flow cytometric analysis of2% paraformaldehyde fixed HeLa cells labeling MK-3 with ab183040 at 1/100 followed byGoat anti rabbit IgG (FITC) at 1/150 (pink).Rabbit monoclonal IgG

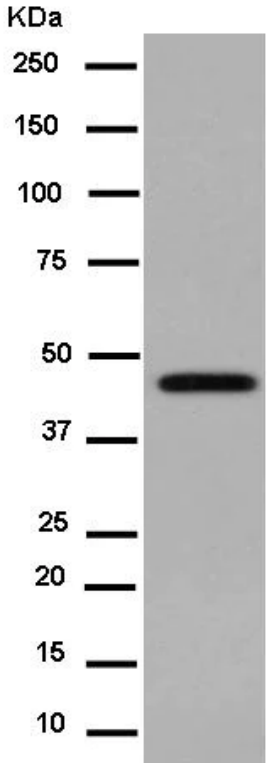
was used asIsotype control (green).



Immunoprecipitation - Anti-MK-3 antibody [EPR13969] (ab183040)

Immunoprecipitation analysis of Jurkat cells labeling MK-3 using ab183040 at 1/50 dilution. A Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/1500 was used as secondary antibody.
All lanes:
Immunoprecipitation - Anti-MK-3 antibody [EPR13969] (ab183040)

Predicted band size: 43 kDa



Western blot - Anti-MK-3 antibody [EPR13969] (ab183040)

MK-3 Western blot staining of Jurkat cell line lysate using rabbit Anti-MK-3 antibody

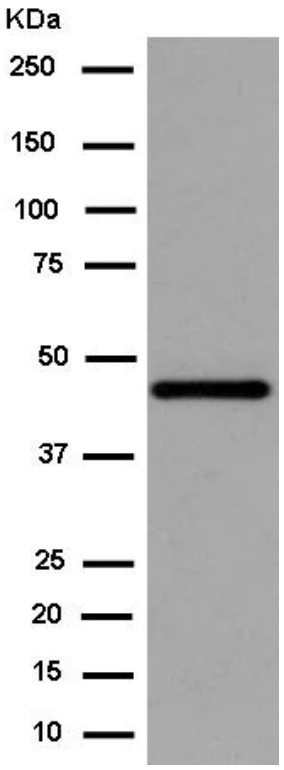
All lanes:
Western blot - Anti-MK-3 antibody [EPR13969] (ab183040) at 1/5000 dilution

All lanes:
Jurkat cell line lysate at 10 µg

Secondary

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

Predicted band size: 43 kDa



Western blot - Anti-MK-3 antibody [EPR13969] (ab183040)

All lanes:
Western blot - Anti-MK-3 antibody [EPR13969] (ab183040) at 1/20000 dilution

All lanes:
HeLa cell line lysate at 20 µg

Secondary

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

Predicted band size: 43 kDa

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