abcam

ab247312

Anti-MST3 antibody [EP1468Y] - BSA and Azide free

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EP1468Y
Purification technique	Affinity purification Protein A
Concentration	0.993 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information STK24

Function

Serine/threonine-protein kinase that acts on both serine and threonine residues and promotes apoptosis in response to stress stimuli and caspase activation. Mediates oxidative-stress-induced cell death by modulating phosphorylation of JNK1-JNK2 (MAPK8 and MAPK9), p38 (MAPK11, MAPK12, MAPK13 and MAPK14) during oxidative stress. Plays a role in a staurosporine-induced caspase-independent apoptotic pathway by regulating the nuclear translocation of AIFM1 and ENDOG and the DNase activity associated with ENDOG. Phosphorylates STK38L on 'Thr-442' and stimulates its kinase activity. In association with STK26 negatively regulates Golgi reorientation in polarized cell migration upon RHO activation (PubMed:27807006). Also regulates cellular migration with alteration of PTPN12 activity and PXN phosphorylation: phosphorylates PTPN12 and inhibits its activity and may regulate PXN phosphorylation through PTPN12. May act as a key regulator of axon regeneration in the optic nerve and radial nerve. Part of the striatin-interacting phosphatase and kinase (STRIPAK) complexes. STRIPAK complexes have critical roles in protein (de)phosphorylation and are regulators of multiple signaling pathways including Hippo, MAPK, nuclear receptor and cytoskeleton remodeling. Different types of STRIPAK complexes are involved in a variety of biological processes such as cell growth, differentiation, apoptosis, metabolism and immune regulation (PubMed:18782753).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

Storage information	Do Not Freeze

Notes

ab247312 is the carrier-free version of ab51137.

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.

Conjugation ready

Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility

This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

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

Activity summary	Mammalian Sterile 20-like kinase 3 also known as MST3 or STK24 is a serine/threonine protein kinase with a mass of approximately 49 kDa. MST3 belongs to the STE20 group of kinases which play roles in various cellular processes. It localizes primarily in the cytoplasm and nucleus and sees significant expression in the brain heart liver and skeletal muscles. MST3 also associates with cellular structures such as the Golgi apparatus suggesting a role in intracellular transport or signaling.
Biological function summary	MST3 participates in regulating cell proliferation apoptosis and migration. It is not part of a larger complex but works closely with other signaling proteins to influence these processes. MST3 impacts cytoskeletal organization contributing to the dynamic remodeling of actin filaments. This protein also affects the apoptotic pathways by modulating the interactions with other kinases and apoptosis-related factors thereby aiding in the maintenance of cellular homeostasis.

Pathways	MST3 plays significant roles in the Hippo signaling pathway and the MAPK pathway—both critical for cell growth survival and differentiation. MST3 shares pathways with kinases like MOB1 and NDR1/2 in the Hippo pathway where it assists in regulating cell proliferation and apoptosis. In the context of MAPK signaling MST3 interacts with and is regulated by RAF1 and MEK1/2 coordinating cell stress responses and signaling cascades.
Associated diseases and disorders	MST3 has associations with neurological disorders and cancer. In the context of neurological disorders MST3 activity affects neuronal apoptosis and tau phosphorylation processes that relate to neurodegenerative diseases. In cancer biology MST3 regulates apoptosis and proliferation and its dysregulation might contribute to tumorigenesis. MST3 connects with proteins such as BCL2 and PARP1 that also influence these disease states making it a protein of interest for therapeutic research.

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

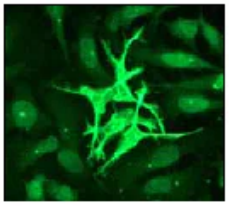
We do not recommend this combination. It is not covered by our product promise.

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.

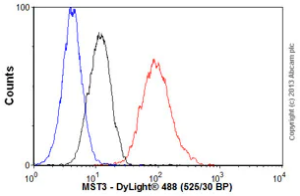
5 product images



Immunocytochemistry/ Immunofluorescence - Anti-MST3 antibody [EP1468Y] - BSA and Azide free (ab247312)

MST3 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-MST3 antibody

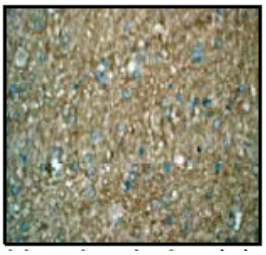
This data was developed using ab51137, the same antibody clone in a different buffer formulation.Immunofluorescent staining of HeLa cells using ab51137 (1:100).



Flow Cytometry (Intracellular) - Anti-MST3 antibody [EP1468Y] - BSA and Azide free (ab247312)

MST3 Flow Cytometry (Intracellular) staining using rabbit Anti-MST3 antibody

This data was developed using ab51137, the same antibody clone in a different buffer formulation.Overlay histogram showing HeLa cells stained with ab51137 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab51137, 1/100 dilution) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-rabbit IgG (H+L) (ab96899) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (monoclonal) (1µg/1x10^6 cells) used under the same conditions. Unlabelled sample (blue line). Acquisition of >5,000 events were collected using a 20mW Argon ion laser (488nm) and 525/30 bandpass filter.

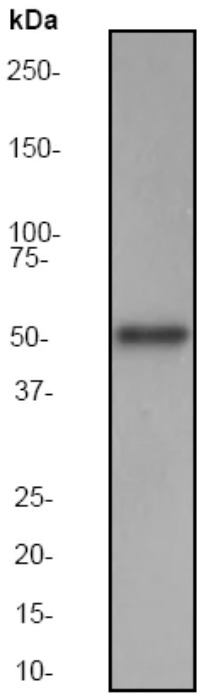


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MST3 antibody [EP1468Y] - BSA and Azide free (ab247312)

MST3 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-MST3 antibody

This data was developed using ab51137, the same antibody clone in a different buffer formulation. ab51137 (1:100) staining human MST3 in human brain tissue by immunohistochemistry using paraffin embedded tissue.

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Western blot - Anti-MST3 antibody [EP1468Y] - BSA and Azide free (ab247312)

MST3 Western blot staining of HeLa cell lysate using rabbit Anti-MST3 antibody

This data was developed using ab51137, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-MST3 antibody [EP1468Y] (ab51137) at 1/5000 dilution

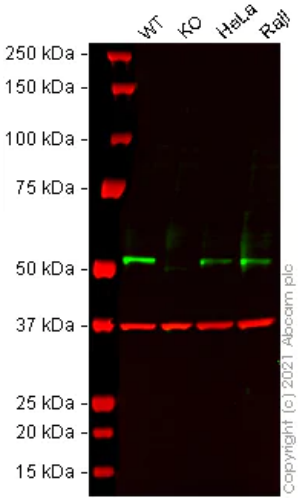
All lanes:
HeLa cell lysate at 10 µg

Secondary

All lanes:
Goat anti-rabbit HRP labeled at 1/2000 dilution

Predicted band size: 49 kDa

Observed band size: 52 kDa



Western blot - Anti-MST3 antibody [EP1468Y] - BSA and Azide free (ab247312)

MST3 Western blot staining using rabbit Anti-MST3 antibody

This data was developed using the same antibody clone in a different buffer formulation (ab51137).
Lanes 1 - 4: Merged signal (red and green). Green - ab51137 observed at 52 kDa. Red - loading control ab8245 (Mouse anti-GAPDH antibody [6C5]) observed at 37 kDa.

ab51137 was shown to react with MST3 in wild-type A431 cells in Western blot with loss of signal observed in STK24 knockout cell line ab269479 (knockout cell lysate ab269643). Wild-type A431 and STK24 knockout cell lysates were subjected to SDS-PAGE. Membranes were blocked in 3 % milk in TBS-T (0.1 % Tween®) before incubation with ab51137 and ab8245 (Mouse anti-GAPDH antibody [6C5]) overnight at 4 °C at a 1 in 1000 dilution and a 1 in 20000 dilution respectively. Blots were incubated with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed (ab216776) secondary antibodies at 1 in 20000 dilution for 1 h at room temperature before imaging.

All lanes:
Western blot - Anti-MST3 antibody [EP1468Y] (ab51137) at 1/1000 dilution

Lane 1:
Wild-type A431 cell lysate at 20 µg

Lane 2:
STK24 knockout A431 cell lysate at 20 µg

Lane 2:
Western blot - Human STK24 knockout A-431 cell line (ab269479)

Lane 3:
HeLa cell lysate at 20 µg

Lane 4:
Raji cell lysate at 20 µg

Performed under reducing conditions.

Predicted band size: 49 kDa

Observed band size: 52 kDa

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