abcam

ab283510

Anti-SIK3 (phospho S551) antibody [EPR20878-12] - BSA and Azide free

Recombinant | RabMAb

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	EPR20878-12
Purification technique	Affinity purification Protein A
Concentration	0.997 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Mouse
Dilution info	-

Notes	-

Not recommended

Species	Rat, Human
Dilution info	-
Notes	-

IP

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

Dot

Tested

Species	Mouse
Dilution info	-
Notes	-

Not recommended

Species	Rat, Human
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	-
Notes	-

Not recommended

Species	Rat, Human
Dilution info	-
Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	-
Notes	-

Not recommended

Species	Rat, Human
Dilution info	-
Notes	-

IHC-Fr

Tested

Species	Mouse
Dilution info	-
Notes	Antigen retrieval was heat mediated with citrate buffer pH 6 before commencing with IHC staining protocol.

Not recommended

Species	Rat, Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Expected

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

Not recommended

Species	Rat, Human
Dilution info	-
Notes	-

Target data

See full target information Sik3 phospho S551

Function	Positive regulator of mTOR signaling that functions by triggering the degradation of DEPTOR, an mTOR inhibitor (By similarity). Required for chondrocyte hypertrophy during skeletogenesis (PubMed:22318228). Negatively regulates cAMP signaling pathway possibly by acting on CRTC2/TORC2 and CRTC3/TORC3 (By similarity). Prevents HDAC4 translocation to the nucleus (PubMed:22318228).

Storage

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

Notes

ab283510 is the carrier-free version of ab225634.

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	SIK3 also known as salt-inducible kinase 3 is a serine/threonine-protein kinase with a molecular mass of approximately 140 kDa. This protein is expressed in many tissues including liver muscle and pancreas. Mechanically SIK3 phosphorylates key substrates involved in the regulation of various cellular functions enhancing or inhibiting their activity. Its action often involves regulating metabolism cytokine signaling and cellular growth processes.
Biological function summary	SIK3 participates in the regulation of glucose metabolism and energy homeostasis. It acts as part of larger complexes that control transcription factors and enzymes related to metabolic processes. These complexes help respond to cellular signals and external stress adjusting cellular functions to maintain balance. It influences the activity of enzymes and transcriptional regulators involved in lipid and carbohydrate metabolism playing a role in energy balance maintenance.
Pathways	SIK3 influences gluconeogenesis and insulin signaling pathways. It is closely connected with proteins such as AMPK (AMP-activated protein kinase) regulating energy sensor mechanisms and metabolic stress responses. These pathways are critical in controlling glucose production and utilization which affect overall energy homeostasis in the body.
Associated diseases and disorders	SIK3's dysfunction links to metabolic disorders like type 2 diabetes and obesity. Altered SIK3 activity affects insulin signaling which can contribute to impaired glucose regulation. It also connects to the protein LKB1 (liver kinase B1) in metabolic disease contexts as both play roles in regulating energy metabolism and maintaining glucose levels. Understanding SIK3's role provides insights for targeting metabolic diseases through therapeutic strategies.

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.

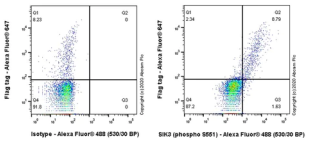
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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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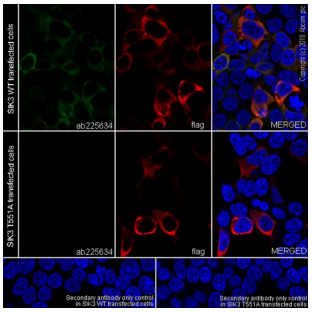
7 product images



Flow Cytometry (Intracellular) - Anti-SIK3 (phospho S551) antibody [EPR20878-12] - BSA and Azide free (ab283510)

SIK3 (phospho S551) Flow Cytometry (Intracellular) staining using rabbit Anti-SIK3 (phospho S551) antibody

This data was developed using ab225634, the same antibody clone in a different buffer formulation.
Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized HEK-293T (Human embryonic kidney epithelial cell) cells transfected with flag-tagged SIK3 WT expression vector cells labelling SIK3 (phospho S551) with ab225634 at 1/500 dilution (0.1 µg) (Right) compared with a Rabbit monoclonal IgG isotype control (ab172730) (Left). A Goat anti rabbit IgG (Alexa Fluor® 488) (ab150077) at 1/2000 dilution was used as the secondary antibody.

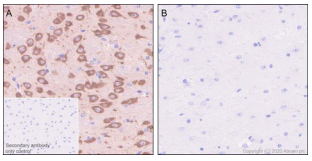


Immunocytochemistry/ Immunofluorescence - Anti-SIK3 (phospho S551) antibody [EPR20878-12] - BSA and Azide free (ab283510)

SIK3 (phospho S551) Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-SIK3 (phospho S551) antibody

This data was developed using ab225634, the same antibody clone in a different buffer formulation.
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized HEK-293T cells labelling SIK3 (phospho S551) with ab225634 at 1/100 (4.61 µg/mL) dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) antibody (ab150077) at 1/1000 (2 µg/mL) dilution (Green). Confocal image showing cytoplasmic staining in HEK-293T cells transfected with flag-tagged SIK3 WT expression vector, and no staining in HEK-293T cells transfected with flag-tagged SIK3 T551A expression vector. Anti-FLAG mouse monoclonal antibody was used to counterstain tubulin at 1/500 (2 µg/mL) dilution (Red). The nuclear counterstain was DAPI (Blue).

Secondary antibody only control: Secondary antibody is Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) at 1/1000 (2 µg/mL) dilution.



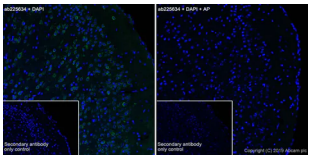
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SIK3 (phospho S551) antibody [EPR20878-12] - BSA and Azide free (ab283510)

SIK3 (phospho S551) Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-SIK3 (phospho S551) antibody

This data was developed using ab225634, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded mouse cerebrum tissue labelling SIK3 (phospho S551) with ab225634 at 1/1000 (0.461 µg/mL) dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Cytoplasmic staining on mouse cerebral cortex without alkaline phosphatase treatment (image A). No signal was detected when tissues were treated with alkaline phosphatase (image B). The section was incubated with ab225634 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.



Immunohistochemistry (Frozen sections) - Anti-SIK3 (phospho S551) antibody [EPR20878-12] - BSA and Azide free (ab283510)

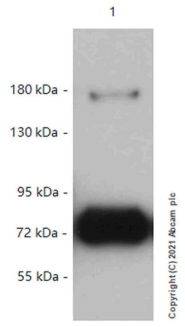
SIK3 (phospho S551) Immunohistochemistry (Frozen sections) staining using rabbit Anti-SIK3 (phospho S551) antibody

This data was developed using ab225634, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen mouse cerebrum (fresh) tissue labeling SIK3 (phospho S551) with ab225634 at 1/100 (4.61 µg/mL) dilution followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) at 1/1000 dilution (Green).

Positive staining on mouse cerebrum, and no staining has been shown after phosphatase treatment at 37°C for 2 hours. The nuclear counterstain was DAPI (Blue).

Secondary antibody control: Secondary antibody is Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) at 1/1000 dilution.

Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20).



Data was kindly provided by Dr. Qinghua Liu, NIBS.

Western blot - Anti-SIK3 (phospho S551) antibody [EPR20878-12] - BSA and Azide free (ab283510)

SIK3 (phospho S551) Western blot staining of Mouse cortex tissue lysate using rabbit Anti-SIK3 (phospho S551) antibody

This data was developed using ab225634, the same antibody clone in a different buffer formulation.
Blocking and diluting buffer and concentration: 3% BSA/TBST.

Data was kindly provided by Dr. Qinghua Liu, NIBS.

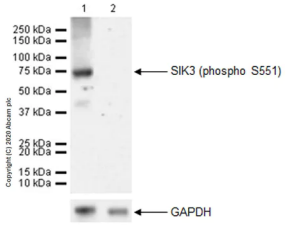
The 1st Ab working concentration was 5 µg/ml.

All lanes:
Western blot - Anti-SIK3 (phospho S551) antibody [EPR20878-12] (ab225634) at 0.461 µg/mL

All lanes:
Mouse cortex tissue lysate at 4 µg

Predicted band size: 140 kDa, 70 kDa

Observed band size: 150 kDa, 70 kDa



Western blot - Anti-SIK3 (phospho S551) antibody [EPR20878-12] - BSA and Azide free (ab283510)

SIK3 (phospho S551) Western blot staining using rabbit Anti-SIK3 (phospho S551) antibody

This data was developed using ab225634, the same antibody clone in a different buffer formulation.
Blocking and diluting buffer and concentration: 5% NFDM/TBST.

This blot was developed using a higher sensitivity ECL substrate.

Exposure time: 3 minutes.

All lanes:
Western blot - Anti-SIK3 (phospho S551) antibody [EPR20878-12] (ab225634) at 1/1000 dilution

Lane 1:
Mouse hippocampus tissue lysate (Untreated membrane) at 10 µg

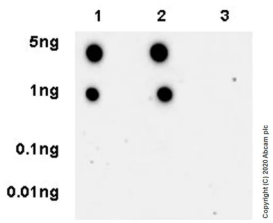
Lane 2:
Mouse hippocampus tissue lysate (Phosphatase treated membrane) at 10 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 140 kDa

Observed band size: 70 kDa



Dot Blot - Anti-SIK3 (phospho S551) antibody [EPR20878-12] - BSA and Azide free (ab283510)

This data was developed using ab225634, the same antibody clone in a different buffer formulation.
Dot blot analysis of SIK3 (phospho S551) using ab225634 at 1/1000 (0.461 µg/mL) followed by a Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ab97051) at 1/100,000 dilution.

Lane 1: SIK3 (phospho S551) peptide 1

Lane 2: SIK3 (phospho S551) peptide 2

Lane 3: SIK3 non-phospho peptide

Exposure time: 3 minutes.

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

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