abcam

ab283509

Anti-SIK3 (phospho T469) antibody [EPR20877-104] - 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	EPR20877-104
Purification technique	Affinity purification Protein A
Concentration	0.954 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-Fr

Not recommended

Species	Mouse, Synthetic peptide - Mouse, Transfected cell line
Dilution info	-

Notes	-

IP

Not recommended

Species	Mouse, Synthetic peptide - Mouse, Transfected cell line
Dilution info	-
Notes	-

Dot

Tested

Species	Synthetic peptide - Mouse
Dilution info	-
Notes	-

Expected

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

Not recommended

Species	Transfected cell line
Dilution info	-
Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	-
Notes	-

Not recommended

Species	Synthetic peptide - Mouse, Transfected cell line
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	-
Notes	-

Not recommended

Species	Synthetic peptide - Mouse, Transfected cell line
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Mouse, Transfected cell line
Dilution info	-
Notes	-

Not recommended

Species	Synthetic peptide - Mouse
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Transfected cell line
Dilution info	-
Notes	-

Expected

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

Not recommended

Species	Synthetic peptide - Mouse
Dilution info	-
Notes	-

Target data

See full target information SIK3 pT469

Function	Positive regulator of mTOR signaling that functions by triggering the degradation of DEPTOR, an mTOR inhibitor. Involved in the dynamic regulation of mTOR signaling in chondrocyte differentiation during skeletogenesis (PubMed:30232230). Negatively regulates cAMP signaling pathway possibly by acting on CRTC2/TORC2 and CRTC3/TORC3 (Probable). Prevents HDAC4 translocation to the nucleus (By similarity).

Storage

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

Notes

ab283509 is the carrier-free version of ab225633.

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

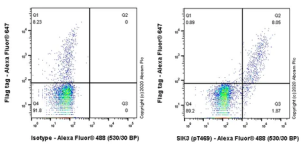
We do not recommend this combination. It is not covered by our product promise.

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.

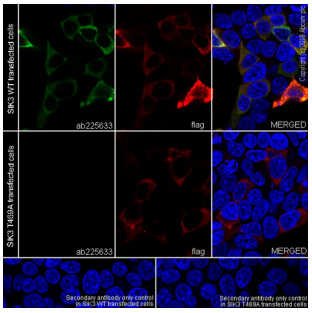
6 product images



Flow Cytometry (Intracellular) - Anti-SIK3 (phospho T469) antibody [EPR20877-104] - BSA and Azide free (ab283509)

SIK3 (phospho T469) Flow Cytometry (Intracellular) staining using rabbit Anti-SIK3 (phospho T469) antibody

This data was developed using ab225633, the same antibody clone in a different buffer formulation.
Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized 293T (Human embryonic kidney epithelial cell) cells transfected with flag-tagged SIK3 WT expression vector cells labelling SIK3 (phospho T469) with ab225633 at 1/500 dilution (0.1ug) (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.

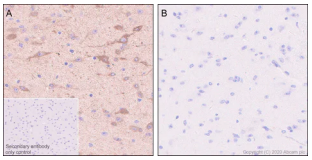


Immunocytochemistry/ Immunofluorescence - Anti-SIK3 (phospho T469) antibody [EPR20877-104] - BSA and Azide free (ab283509)

SIK3 (phospho T469) Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-SIK3 (phospho T469) antibody

This data was developed using ab225633, the same antibody clone in a different buffer formulation.
Immunocytochemical analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized 293T cells labelling SIK3 (phospho T469) with ab225633 at 1/100 (5.22 ug/mL) dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) antibody (ab150077) at 1/1000 (2 ug/mL) dilution (Green). Confocal image showing cytoplasmic staining in 293T cells transfected with flag-tagged SIK3 WT expression vector, and no staining in 293T cells transfected with flag-tagged SIK3 T469A expression vector is observed. Anti-FLAG mouse monoclonal antibody was used to counterstain tubulin at 1/500 (2 ug/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 ug/mL) dilution.



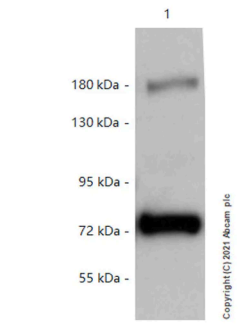
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SIK3 (phospho T469) antibody [EPR20877-104] - BSA and Azide free (ab283509)

SIK3 (phospho T469) Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-SIK3 (phospho T469) antibody

This data was developed using ab225633, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded Mouse cerebrum tissue labelling SIK3 (phospho T469) with ab225633 at 1/1000 (0.522 ug/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 ab225633 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.



Western blot - Anti-SIK3 (phospho T469) antibody [EPR20877-104] - BSA and Azide free (ab283509)

SIK3 (phospho T469) Western blot staining of Mouse cortex tissue lysate using rabbit Anti-SIK3 (phospho T469) antibody

This data was developed using ab225633, the same antibody clone in a different buffer formulation.
Blocking and diluting buffer and concentration: 5% NFDM/TBST.

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

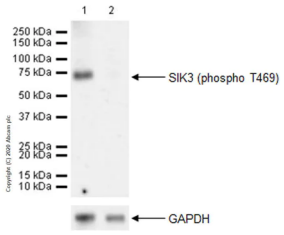
The 1st Ab working concentration was 5 ug/ml.

Exposure time:
All lanes:
Western blot - Anti-SIK3 (phospho T469) antibody [EPR20877-104] (ab225633) at 0.522 mg/mL

All lanes:
Mouse cortex tissue lysate at 4 µg

Predicted band size: 140 kDa

Observed band size: 150 kDa, 70 kDa



Western blot - Anti-SIK3 (phospho T469) antibody [EPR20877-104] - BSA and Azide free (ab283509)

SIK3 (phospho T469) Western blot staining using rabbit Anti-SIK3 (phospho T469) antibody

This data was developed using ab225633, 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: 114 seconds.

All lanes:
Western blot - Anti-SIK3 (phospho T469) antibody [EPR20877-104] (ab225633) at 1/5000 dilution

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

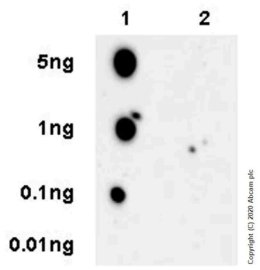
Lane 2:
Mouse hippocampus tissue lysate (Phosphatase treated membrane) at 10 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 140 kDa

Observed band size: 70 kDa



Dot Blot - Anti-SIK3 (phospho T469) antibody [EPR20877-104] - BSA and Azide free (ab283509)

This data was developed using ab225633, the same antibody clone in a different buffer formulation.
Dot blot analysis of SIK3 (phospho T469) using ab225633 at 1/1000 (0.522 ug/mL) dilution followed by a Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ab97051) at 1/100000 dilution.

Lane 1: SIK3 (phospho T469) peptide

Lane 2: 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'.