abcam

ab255701

Anti-SIK3 antibody [EPR23554-71]

Recombinant | RabMAb | KO Validated | 20ul selling size

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	EPR23554-71
Purification technique	Affinity purification Protein A
Specificity	This antibody does not react with Mouse and Rat species for IHC application. This antibody does not react with Human species for ICC and FC application.
Concentration	0.575 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Mouse
Dilution info	1/50

Notes	-

Expected

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

Not recommended

Species	Human
Dilution info	-
Notes	-

IP

Tested

Species	Mouse
Dilution info	1/30
Notes	-

Expected

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

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat

Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/100
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	1/50
Notes	-

Expected

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

Not recommended

Species	Human
Dilution info	-
Notes	-

Target data

See full target information Sik3

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	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	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

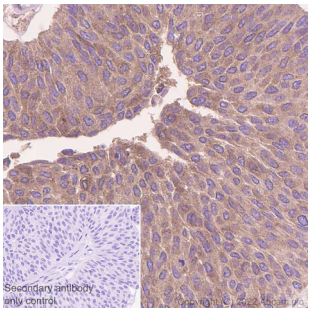
We do not recommend this combination. It is not covered by our product promise.

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.

7 product images

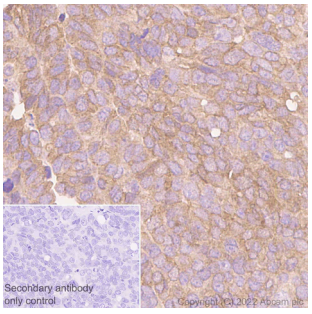


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SIK3 antibody [EPR23554-71] (ab255701)

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

Immunohistochemical analysis of paraffin-embedded Human bladder cancer tissue labelling SIK3 with ab255701 at 1/100 (5.85 ug/ml) followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Cytoplasmic staining in human bladder cancer. The section was incubated with ab255701 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

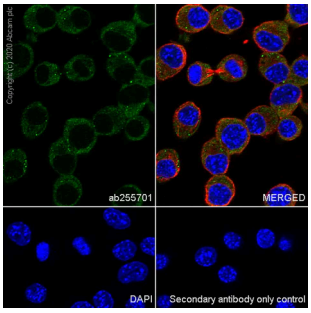


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SIK3 antibody [EPR23554-71] (ab255701)

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

Immunohistochemical analysis of paraffin-embedded Human ovarian cancer tissue labelling SIK3 with ab255701 at 1/100 (5.85 ug/ml) followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Cytoplasmic staining in human ovarian cancer (PMID: 21399663). The section was incubated with ab255701 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).

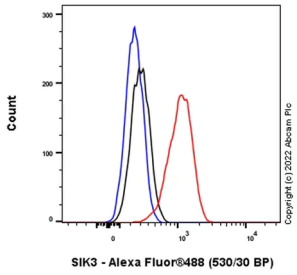
Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins



Immunocytochemistry/ Immunofluorescence - Anti-SIK3 antibody [EPR23554-71] (ab255701)

SIK3 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-SIK3 antibody

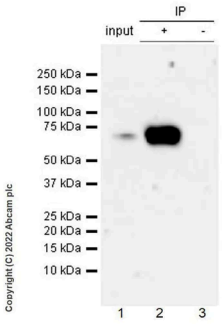
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized Neuro-2a (mouse neuroblastoma neuroblast) cells lebelling SIK3 with ab255701 at 1/50 (11.7 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 (2ug/mL) dilution (Green). Confocal image showing cytoplasmic staining in Neuro-2a cell line is observed. ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 (2.5ug/ml) dilution (Red). The Nuclear counterstain was DAPI (Blue).
Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 (2ug/mL) dilution.



Flow Cytometry (Intracellular) - Anti-SIK3 antibody [EPR23554-71] (ab255701)

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

Intracellular flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized Neuro-2a (Mouse neuroblastoma neuroblast) cells labelling SIK3 with ab255701 at 1/50 dilution (1ug) (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/2000 dilution was used as the secondary antibody.



Immunoprecipitation - Anti-SIK3 antibody [EPR23554-71] (ab255701)

SIK3 was immunoprecipitated from 0.35 mg Mouse brain tissue lysate 10 ug with ab255701 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab255701 at 1/1000 dilution. VeriBlot for IP secondary antibody(HRP)(ab131366) was used at 1/5000 dilution.
Lane 1: Mouse brain tissue lysate 10 ug

Lane 2: ab255701 IP in Mouse brain tissue lysate

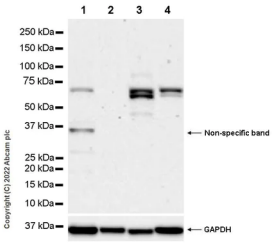
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab255701 in Mouse brain tissue lysate

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

Exposure time: 41 seconds

All lanes:
Immunoprecipitation - Anti-SIK3 antibody [EPR23554-71] (ab255701)

Predicted band size: 140 kDa



Western blot - Anti-SIK3 antibody [EPR23554-71] (ab255701)

SIK3 Western blot staining using rabbit Anti-SIK3 antibody

Blocking / Dilution buffer and concentration: 5% NFDM/TBST
The expression profile/molecular weight observed is consistent with that described in the literature (PMID: 32542037).
Low expression: NIH:OVCAR-3 (PMID: PMID: 31762812)

All lanes:
Western blot - Anti-SIK3 antibody [EPR23554-71] (ab255701) at 1/1000 dilution

Lane 1:
U-87 MG (human glioblastoma-astrocytoma epithelial cell), whole cell lysate at 20 µg

Lane 2:
NIH:OVCAR-3 (human ovary adenocarcinoma epithelial cell), whole cell lysate at 20 µg

Lane 3:
Neuro-2a (mouse neuroblastoma neuroblast), whole cell lysate at 20 µg

Lane 4:
C6 (rat glial tumor glial cell), whole cell lysate at 20 µg

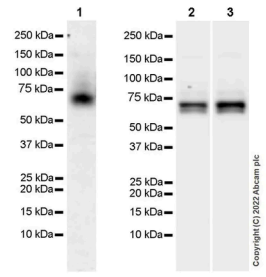
Secondary

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

Predicted band size: 140 kDa

Observed band size: 69 kDa, 73 kDa

Exposure time: 3min



Western blot - Anti-SIK3 antibody [EPR23554-71] (ab255701)

SIK3 Western blot staining using rabbit Anti-SIK3 antibody

Blocking buffer and concentration: 5% NFDM/TBST
Exposure time:

Lane 1: 3 minutes
Lane 2 & 3: 26 seconds

The expression profile/molecular weight observed is consistent with that described in the literature (PMID: 32542037).

All lanes:
Western blot - Anti-SIK3 antibody [EPR23554-71] (ab255701) at 1/1000 dilution

Lane 1:
Human brain tissue lysate at 60 µg

Lane 2:
Mouse brain tissue lysate at 20 µg

Lane 3:
Rat brain tissue lysate at 20 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: 69 kDa, 73 kDa

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