abcam

ab247441

Anti-RSK4 antibody [EP1982Y] - 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	EP1982Y
Purification technique	Affinity purification Protein A
Concentration	1.016 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Rat, Human
Dilution info	-
Notes	-

Expected

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

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

WB

Tested

Species	Mouse, Human
Dilution info	-
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	-
Notes	-

Expected

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

Target data

See full target information RPS6KA6

Function	Constitutively active serine/threonine-protein kinase that exhibits growth-factor-independent kinase activity and that may participate in p53/TP53-dependent cell growth arrest signaling and play an inhibitory role during embryogenesis.

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

ab247441 is the carrier-free version of ab76117.

Species reactivity

Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.

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	RSK4 also known as Ribosomal S6 Kinase 4 or RPS6KA6 is a protein that functions as a serine/threonine kinase. It plays a significant role in intracellular signaling. RSK4 has a molecular mass of approximately 80 kDa. It belongs to the RSK family of proteins which share a characteristic kinase domain structure. Expression of RSK4 is seen in various tissues including brain kidney and endothelial cells indicating its diverse functional roles across different cell types and systems.
Biological function summary	RSK4 has a role in regulating cell growth and survival. It can influence transcriptional processes and protein synthesis. Despite being not extensively documented in biological research as other family members its kinase activity suggests that it participates in various cellular processes by phosphorylating specific substrates. RSK4 operates as an individual kinase while its related family members may form complexes for more coordinated activities. Its action in cell cycle regulation highlights its importance in maintaining cellular function.
Pathways	RSK4 integrates into well-known signaling pathways including the MAPK/ERK pathway. This association implies it has a role in the regulation of gene expression mitosis and cell survival linking it with other kinases like ERK1 and ERK2. Furthermore it can interact with pathways involving the PI3K/AKT signaling cascade contributing to additional regulation of cell growth thereby influencing diverse physiological functions. The involvement of RSK4 in these pathways highlights its potential interactions with other proteins such as MEK and mTOR which are pivotal in driving intracellular responses.
Associated diseases and disorders	RSK4 has associations with various conditions including cancer and specific genetic disorders. It has been linked with tumor suppression suggesting that

dysregulation of RSK4 may contribute to oncogenic processes. Additionally alterations in RSK4 expression or activity have potential connections with mental health disorders due to its expression in the brain. It interacts biologically with proteins like p53 and other growth factor receptors which are also implicated in these disease processes. Understanding RSK4's role in these contexts can provide insights into therapeutic targets for managing such conditions.

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

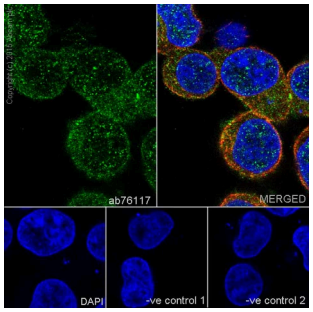
We do not recommend this combination. It is not covered by our product promise.

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.

10 product images

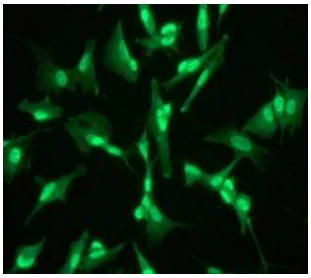


Immunocytochemistry/ Immunofluorescence - Anti-RSK4 antibody [EP1982Y] - BSA and Azide free (ab247441)

RSK4 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-RSK4 antibody

This data was developed using ab76117, the same antibody clone in a different buffer formulation. Immunofluorescence staining of HEK293 cells with purified ab76117 at a working dilution of 1/1000, counter-stained with DAPI. The secondary antibody was Alexa Fluor® 488 goat anti-rabbit (ab150077), used at a dilution of 1/1000. ab7291, a mouse anti-tubulin antibody (1/1000), was used to stain tubulin along with ab150120 (Alexa Fluor® 594 goat anti-mouse, 1/1000), shown in the top right hand panel. The cells were fixed in 4% PFA and permeabilized using 0.1% Triton X 100. The negative controls are shown in bottom middle and right hand panels - for negative control 1, purified ab76117 was used at a dilution of 1/500 followed by an Alexa Fluor® 594 goat

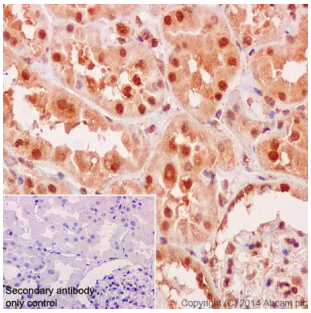
anti-mouse antibody (ab150120) at a dilution of 1/500. For negative control 2, ab7291 (mouse anti-tubulin) was used at a dilution of 1/500 followed by an Alexa Fluor® 488 goat anti-rabbit antibody (ab150077) at a dilution of 1/400.



Immunocytochemistry/ Immunofluorescence - Anti-RSK4 antibody [EP1982Y] - BSA and Azide free (ab247441)

RSK4 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-RSK4 antibody

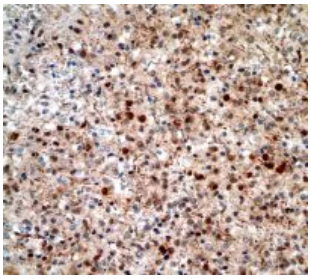
This data was developed using ab76117, the same antibody clone in a different buffer formulation. Immunofluorescent staining of SH-Sy5y cells using unpurified ab76117 at 1/100 dilution.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RSK4 antibody [EP1982Y] - BSA and Azide free (ab247441)

RSK4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-RSK4 antibody

This data was developed using ab76117, the same antibody clone in a different buffer formulation.Immunohistochemical staining of paraffin embedded human kidney with purified ab76117 at a working dilution of 1/250. The secondary antibody used is HRP goat anti-rabbit IgG H&L (ab97051) at 1/500. The sample is counter-stained with hematoxylin. Antigen retrieval was perfomed using Tris-EDTA buffer, pH 9.0. PBS was used instead of the primary antibody as the negative control, and is shown in the inset.

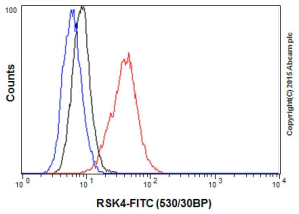


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RSK4 antibody [EP1982Y] - BSA and Azide free (ab247441)

RSK4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-RSK4 antibody

This data was developed using ab76117, the same antibody clone in a different buffer formulation. Unpurified ab76117, at 1/50 dilution, staining RSK4 in paraffin-embedded human brain glioma tissue.

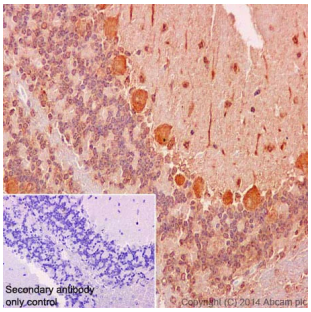
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-RSK4 antibody [EP1982Y] - BSA and Azide free (ab247441)

RSK4 Flow Cytometry (Intracellular) staining using rabbit Anti-RSK4 antibody

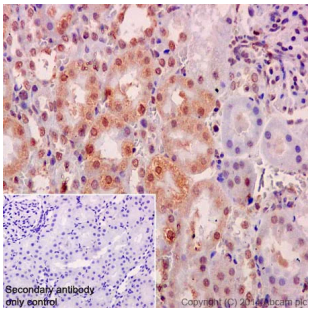
This data was developed using ab76117, the same antibody clone in a different buffer formulation. Overlay histogram showing Neuro-2a cells fixed in 2% PFA and stained with purified ab76117 at a dilution of 1 in 70 (red line). The secondary antibody used was FITC goat anti-rabbit at a dilution of 1 in 500. Rabbit monoclonal IgG was used as an isotype control (black line) and cells incubated in the absence of both primary and secondary antibody were used as a negative control (blue line).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RSK4 antibody [EP1982Y] - BSA and Azide free (ab247441)

RSK4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-RSK4 antibody

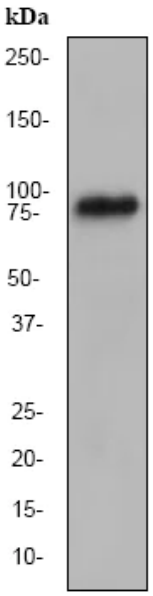
This data was developed using ab76117, the same antibody clone in a different buffer formulation.Immunohistochemical staining of paraffin embedded mouse cerebral cortex with purified ab76117 at a working dilution of 1/250. The secondary antibody used is HRP goat anti-rabbit IgG H&L (ab97051) at 1/500. The sample is counter-stained with hematoxylin. Antigen retrieval was perfomed using Tris-EDTA buffer, pH 9.0. PBS was used instead of the primary antibody as the negative control, and is shown in the inset.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RSK4 antibody [EP1982Y] - BSA and Azide free (ab247441)

RSK4 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-RSK4 antibody

This data was developed using ab76117, the same antibody clone in a different buffer formulation.Immunohistochemical staining of paraffin embedded rat kidney with purified ab76117 at a working dilution of 1/250. The secondary antibody used is HRP goat anti-rabbit IgG H&L (ab97051) at 1/500. The sample is counter-stained with hematoxylin. Antigen retrieval was perfomed using Tris-EDTA buffer, pH 9.0. PBS was used instead of the primary antibody as the negative control, and is shown in the inset.



Western blot - Anti-RSK4 antibody [EP1982Y] - BSA and Azide free (ab247441)

RSK4 Western blot staining of SH-SY5Y cell lysate using rabbit Anti-RSK4 antibody

This data was developed using ab76117, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-RSK4 antibody [EP1982Y] - BSA and Azide free (ab247441) at 1/500 dilution

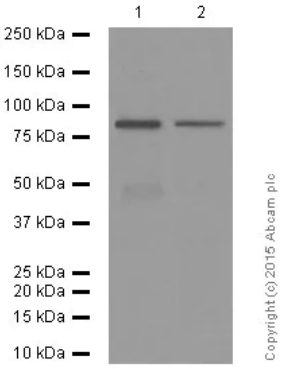
All lanes:
SH-SY5Y cell lysate at 10 µg

Secondary

All lanes:
HRP labelled goat anti-rabbit at 1/2000 dilution

Predicted band size: 84 kDa

Observed band size: 90 kDa



Western blot - Anti-RSK4 antibody [EP1982Y] - BSA and Azide free (ab247441)

RSK4 Western blot staining using rabbit Anti-RSK4 antibody

This data was developed using ab76117, the same antibody clone in a different buffer formulation.
Blocking and dilution buffer: 5% NFDM/TBST.

All lanes:
Western blot - Anti-RSK4 antibody [EP1982Y] (ab76117) at 1/1000 dilution

Lane 1:
SH-SY5Y cell lysate at 20 µg

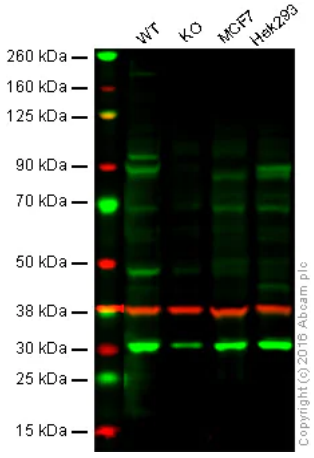
Lane 2:
Caco-2 cell lysate at 20 µg

Secondary

All lanes:
HRP goat anti-rabbit IgG (H+L) at 1/1000 dilution

Predicted band size: 84 kDa

Observed band size: 90 kDa



Western blot - Anti-RSK4 antibody [EP1982Y] - BSA and Azide free (ab247441)

RSK4 Western blot staining using rabbit Anti-RSK4 antibody

This data was developed using ab76117, the same antibody clone in a different buffer formulation.
Lane 1: Wild-type HAP1 cell lysate (40 µg)

Lane 2: RSK4 knockout HAP1 cell lysate (40 µg)

Lane 3: MCF7 cell lysate (20 µg)

Lane 4: HEK293 cell lysate (20 µg)

Lanes 1 - 4: Merged signal (red and green). Green - ab76117 observed at 90 kDa. Red - loading control, ab8245, observed at 37 kDa.

ab76117 was shown to recognize RSK4 when RSK4 knockout samples were used, along with additional cross-reactive bands. Wild-type and RSK4 knockout samples were subjected to SDS-PAGE. ab76117 and ab8245 (loading control to GAPDH) were diluted at 1/250 and 1/10,000 dilution respectively and incubated overnight at 4°C. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (ab216776) secondary antibodies at 1/10,000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-RSK4 antibody [EP1982Y] (ab76117)

Predicted band size: 39 kDa, 84 kDa

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