abcam

ab81081

Anti-RPS6 (phospho S240 + S244) antibody [SP45]

Lab Essentials | Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.6 Preservative: 0.1% Sodium azide Constituents: PBS, 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	SP45
Purification technique	Affinity purification Protein A/G
Purification notes	Purified from TCS by protein A/G.

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/50
Notes	Primary antibody incubation for 30 minutes at room temperature.

Predicted

Species	Pig, Mouse, Rat, Rabbit, Chicken, Cow, Dog
Dilution info	-
Notes	-

Not recommended

Species	Synthetic peptide
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/640
Notes	-

Predicted

Species	Pig, Mouse, Rat, Rabbit, Chicken, Cow, Dog
Dilution info	-
Notes	-

Not recommended

Species	Synthetic peptide
Dilution info	-
Notes	-

ELISA

Tested

Species	Synthetic peptide
Dilution info	1 µg/mL

Notes	-

Expected

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

Predicted

Species	Pig, Mouse, Rat, Rabbit, Chicken, Cow, Dog
Dilution info	-
Notes	-

Dot

Tested

Species	Synthetic peptide
Dilution info	0.643 µg/mL
Notes	-

Expected

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

Predicted

Species	Pig, Mouse, Rat, Rabbit, Chicken, Cow, Dog
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/500
Notes	-

Predicted

Species	Pig, Mouse, Rat, Rabbit, Chicken, Cow, Dog
Dilution info	-
Notes	-

Not recommended

Species	Synthetic peptide
Dilution info	-
Notes	-

Target data

See full target information RPS6 pS240 + S244

Function	Component of the 40S small ribosomal subunit (PubMed:23636399, PubMed:8706699). Plays an important role in controlling cell growth and proliferation through the selective translation of particular classes of mRNA (PubMed:17220279). Part of the small subunit (SSU) processome, first precursor of the small eukaryotic ribosomal subunit. During the assembly of the SSU processome in the nucleolus, many ribosome biogenesis factors, an RNA chaperone and ribosomal proteins associate with the nascent pre-rRNA and work in concert to generate RNA folding, modifications, rearrangements and cleavage as well as targeted degradation of pre-ribosomal RNA by the RNA exosome (PubMed:34516797).

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

Supplementary info

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

Activity summary	RPS6 also known as Ribosomal Protein S6 is a component of the 40S ribosomal subunit with a molecular weight of approximately 28 kDa. This protein mainly localizes in the cytoplasm where ribosomes are fixed during protein synthesis. The ribosomal machinery uses RPS6 to translate mRNA into polypeptides operating as an essential part of protein biosynthesis. It expresses in various tissues with higher levels in highly proliferative cells which need extensive protein production for growth.
Biological function summary	RPS6 is integral to the formation of the ribosomal complex. This complex is essential for the translation initiation process. RPS6 controls the translation capacity of ribosomes and functions in growth and development by regulating protein synthesis rates. Alterations in RPS6 activity can impact cellular growth and size due to its role in ribosome biogenesis.
Pathways	RPS6 plays a significant role in the mTOR and PI3K/AKT signaling pathways. These pathways link nutrient availability to protein synthesis influencing cellular growth and metabolism. RPS6 interacts with proteins like S6K1 which is a downstream target in the mTOR pathway to modulate translation and cell growth processes.
Associated diseases and disorders	RPS6 has connections to cancer and metabolic syndromes. Abnormal RPS6 activation can lead to dysregulated cell growth contributing to oncogenesis. In the context of cancer mTOR signaling where RPS6 functions is often upregulated leading to uncontrolled proliferation. Moreover in metabolic disorders the disrupted pathway activity involves other proteins like AKT fostering insulin resistance and metabolic imbalance.

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.

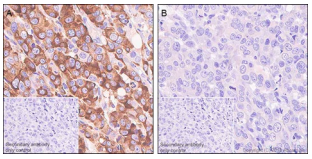
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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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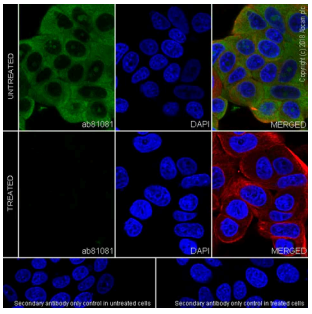
6 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RPS6 (phospho S240 + S244) antibody [SP45] (ab81081)

RPS6 (phospho S240 + S244) Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-RPS6 (phospho S240 + S244) antibody

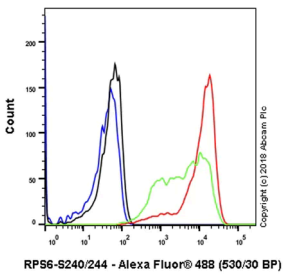
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human breast carcinoma tissue sections labeling RPS6 with ab81081 at 1/50 dilution (3.86 µg/ml). Heat mediated antigen retrieval with sodium citrate buffer (pH 6.0, epitope retrieval solution 1) for 10mins. Goat Anti-Rabbit & Mouse IgG (HRP) was used as the secondary antibody. Hematoxylin was used as a counterstain. Cytoplasmic staining on human breast carcinoma without lambda phosphatase treatment (image A); no signal can be observed after treatment with lambda phosphatase (image B), performed on a Leica Biosystems BOND™ RX instrument.
The section was incubated with ab81082 for 30 mins at room temperature.



Immunocytochemistry/ Immunofluorescence - Anti-RPS6 (phospho S240 + S244) antibody [SP45] (ab81081)

RPS6 (phospho S240 + S244) Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-RPS6 (phospho S240 + S244) antibody

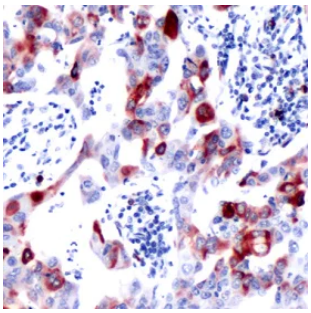
Immunocytochemistry/ Immunofluorescence analysis of MCF7 (human breast adenocarcinoma epithelial cell) treated with lamda phosphatase cells labeling RPS6 with purified ab81081 at 1/500 (1.3 µg/ml). Cells were fixed in 4% paraformaldehyde and permeabilized with 0.1% Triton X-100. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1/200 (2.5 µg/ml). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody at 1/1000 (2 µg/ml) dilution. DAPI was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.



Flow Cytometry (Intracellular) - Anti-RPS6 (phospho S240 + S244) antibody [SP45] (ab81081)

RPS6 (phospho S240 + S244) Flow Cytometry (Intracellular) staining using rabbit Anti-RPS6 (phospho S240 + S244) antibody

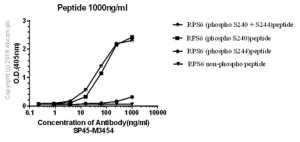
Flow cytometry analysis of MCF7 grown in serum-free media overnight, then grown in 20% FBS media for 30 minutes labeling RPS6 with purified ab81081 at 1/640 dilution (1.00 µg/ml) (red). Cells were fixed with 4% paraformaldehyde and permeabilised with 90% methanol. Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/2000 dilution was used as a secondary antibody. Isotype control -Rabbit monoclonal IgG (ab172730) / Black. Unlableled control -Unlabelled cells / blue.Untreated cells (Green).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RPS6 (phospho S240 + S244) antibody [SP45] (ab81081)

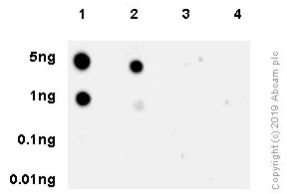
RPS6 (phospho S240 + S244) Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-RPS6 (phospho S240 + S244) antibody

Formalin-fixed, paraffin-embedded human breast carcinoma tissue stained for RPS6 (phospho S240 + S244) using ab81081 at 1/50 dilution in immunohistochemical analysis.



ELISA - Anti-RPS6 (phospho S240 + S244) antibody [SP45] (ab81081)

ELISA antigen dose-response curve using purified ab81081 at 0.1-1000 ng/mL. Antigen concentration of 0-10000 ng/mL. A Alkaline Phosphatase AffiniPure Goat Anti-Rabbit IgG (H+L) (Jackson ImmunoResearch) (1/2500) was used as the secondary antibody.
RPS (phospho S240 + S244): RA-S(p)-TSK-S(p)-ESSQKC
RPS (phospho S240) : RA-S(p)-TSKSESSQKC
RPS (phospho S244): RASTSK-S(p)-ESSQKC
RPS non-phospho: RASTSKSESSQKC



Dot Blot - Anti-RPS6 (phospho S240 + S244) antibody [SP45] (ab81081)

Dot blot analysis of RPS6 (phospho S240 + S244) peptide (Lane 1), RPS6 (phospho S240) peptide (Lane 2), RPS6 (phospho S244) peptide (Lane 3) and RPS6 non-phospho peptide (Lane 4) RPS6 labeling (phospho S240 + S244) with purified ab81081 at 0.643 µg/mL. ab97051 (Peroxidase conjugated goat anti-rabbit IgG (H+L)) was used as the secondary antibody at 0.01 µg/mL. Blocking and dilution buffer: 5% NFDM/TBST.

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