abcam

ab215214

# Anti-RPS6 (phospho S240 + S244) antibody [EPR20770]

Lab Essentials | Recombinant | RabMAb

## 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** | EPR20770 |
| **Purification technique** | Affinity purification Protein A |
| **Concentration** | 0.552 mg/mL The concentration of this product may be batch-dependent<br>Batch concentration finder → |

## Reactivity data

## IP

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/30 |
| **Notes** | - |

### Expected

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

## Dot

### Tested

| | |
|---|---|
| **Species** | Mouse |
| **Dilution info** | 1/1000 |
| **Notes** | - |

### Expected

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

## WB

### Tested

| | |
|---|---|
| **Species** | Mouse |
| **Dilution info** | 1/5000 |
| **Notes** | - |

| | |
|---|---|
| **Species** | Rat |
| **Dilution info** | 1/5000 |
| **Notes** | - |

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/5000 |
| **Notes** | - |

## ICC/IF

### Tested

| | |
|---|---|
| **Species** | Mouse |
| **Dilution info** | 1/100 |
| **Notes** | - |

### Expected

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

## Flow Cyt (Intra)

### Tested

| | |
|---|---|
| **Species** | Mouse |
| **Dilution info** | 1/600 |
| **Notes** | - |

### Expected

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

## IHC-P

### Tested

| | |
|---|---|
| **Species** | Mouse |
| **Dilution info** | 1/500 - 1/2000 |
| **Notes** | 1/500 dilution for human and 1/2000 for mouse and rat. |

| | |
|---|---|
| **Species** | Rat |
| **Dilution info** | 1/500 - 1/2000 |

| | |
|---|---|
| **Notes** | 1/500 dilution for human and 1/2000 for mouse and rat. |

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/500 - 1/2000 |
| **Notes** | 1/500 dilution for human and 1/2000 for mouse and rat. |

## 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 |

## 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** | 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.

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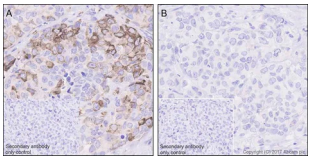
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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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## 9 product images



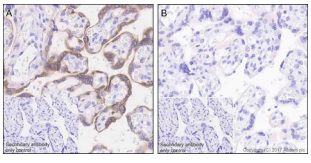
### Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RPS6 (phospho S240 + S244) antibody [EPR20770] (ab215214)

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

Immunohistochemical analysis of paraffin-embedded human breast cancer tissue labeling RPS6 (phospho S240 + S244) with ab215214 at 1/500 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP), ready to use. Cytoplasmic staining on human breast cancer (image A), no signal was detected when tissues were treated with alkaline phosphatase (image B). Counter stained with Hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP), ready to use.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

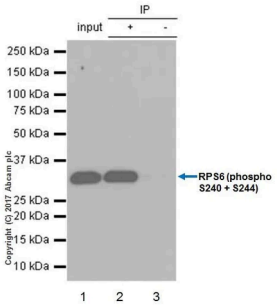
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### Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RPS6 (phospho S240 + S244) antibody [EPR20770] (ab215214)

Immunohistochemical analysis of paraffin-embedded human placenta tissue labeling RPS6 (phospho S240 + S244) with ab215214 at 1/500 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP), ready to use. Cytoplasmic staining on human placenta (image A), no signal was detected when tissues were treated with alkaline phosphatase (image B). Counter stained with Hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP), ready to use.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.




## Immunoprecipitation - Anti-RPS6 (phospho S240 + S244) antibody [EPR20770] (ab215214)

RPS9 (phospho S240 + S244) was immunoprecipitated from 0.35 mg of MCF7 (human breast adenocarcinoma cell line), grown in serum-free media overnight, then grown in 20% FBS media for 30 minutes, lysate with ab215214 at 1/30 dilution. Western blot was performed from the immunoprecipitate using ab215214 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366), was used for detection at 1/10,000 dilution.
Lane 1: MCF7 grown in serum-free media overnight, then grown in 20% FBS media for 30 minutes, whole cell lysate 10 µg (Input).

Lane 2: ab215214 IP in MCF7 grown in serum-free media overnight, then grown in 20% FBS media for 30 minutes, whole cell lysate.

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab215214 in MCF7 grown in serum-free media overnight, then grown in 20% FBS media for 30 minutes, whole cell lysate.

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

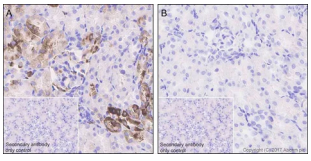
Exposure time: 10 seconds.

All lanes:
Immunoprecipitation - Anti-RPS6 (phospho S240 + S244) antibody [EPR20770] (ab215214)

Predicted band size: 29 kDa

Observed band size: 32 kDa

Exposure time: 10s

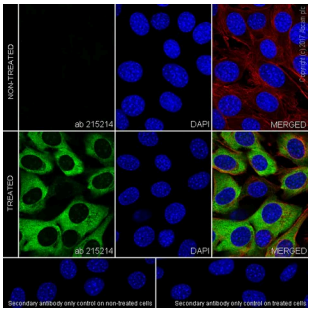



## Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RPS6 (phospho S240 + S244) antibody [EPR20770] (ab215214)

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

Immunohistochemical analysis of paraffin-embedded rat kidney tissue labeling RPS6 (phospho S240 + S244) with ab215214 at 1/2000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP), ready to use. Cytoplasmic staining on rat kidney (image A), no signal was detected when tissues were treated with alkaline phosphatase (image B). Counter stained with Hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP), ready to use.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

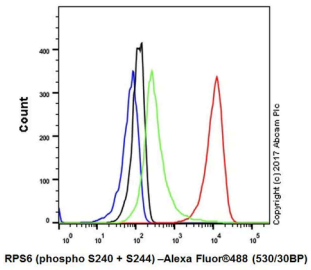



## Immunocytochemistry/ Immunofluorescence - Anti-RPS6 (phospho S240 + S244) antibody [EPR20770] (ab215214)

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

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized NIH/3T3 (mouse embryonic fibroblast cell line) cells labeling RPS6 (phospho S240 + S244) with ab215214 at 1/100 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Cytoplasmic staining was increased after treatment with 20% FBS for 30 minutes on NIH/3T3 cells. Cells were FBS deprived for 4 hours before the treatment.
The nuclear counter stain is DAPI (blue). Tubulin is detected with Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) (ab195889) (red) at 1/200 dilution.

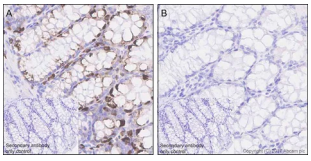
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution.




## Flow Cytometry (Intracellular) - Anti-RPS6 (phospho S240 + S244) antibody [EPR20770] (ab215214)

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

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed, 90% methanol permeabilized NIH/3T3 (mouse embryonic fibroblast cell line) grown in serum-free media for 4 hours, then grown in 20% FBS media for 30 minutes (red) or NIH/3T3 grown in serum-free media for 4 hours (green), cell line labeling RPS6 (phospho S240 + S244) with ab215214 at 1/600 dilution compared with a Rabbit IgG, monoclonal [EPR25A] - Isotype Control (ab172730) (black) and an unlabeled control (cells without incubation with primary antibody and secondary antibody) (blue). Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/2000 dilution was used as the secondary antibody.

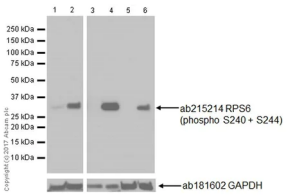



## Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RPS6 (phospho S240 + S244) antibody [EPR20770] (ab215214)

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

Immunohistochemical analysis of paraffin-embedded mouse colon tissue labeling RPS6 (phospho S240 + S244) with ab215214 at 1/2000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP), ready to use. Cytoplasmic staining on mouse colon (image A), no signal was detected when tissues were treated with alkaline phosphatase (image B). Counter stained with Hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP), ready to use.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.




# Western blot - Anti-RPS6 (phospho S240 + S244) antibody [EPR20770] (ab215214)

RPS6 (phospho S240 + S244) Western blot staining using rabbit Anti-RPS6 (phospho S240 + S244) antibody

**Exposure times:** Lanes 1,2: 1 second; Lanes 3-6: 5 seconds.

Blocking/Dilution buffer: 5% NFDM/TBST.

All lanes:
Western blot - Anti-RPS6 (phospho S240 + S244) antibody [EPR20770] (ab215214) at 1/5000 dilution

Lane 1:
MCF7 (human breast adenocarcinoma cell line) grown in serum-free media overnight, whole cell lysate at 20 µg

Lane 2:
MCF7 grown in serum-free media overnight, then grown in 20% FBS media for 30 minutes, whole cell lysate at 20 µg

Lane 3:
NIH/3T3 (mouse embryonic fibroblast cell line) grown in serum-free media for 4 hours, whole cell lysate at 20 µg

Lane 4:
NIH/3T3 grown in serum-free media for 4 hours, then grown in 20% FBS media for 30 minutes, whole cell lysate at 20 µg

Lane 5:
PC-12 (rat adrenal gland pheochromocytoma cell line) grown in serum-free media overnight, whole cell lysate at 20 µg

Lane 6:
PC-12 grown in serum-free media overnight, then grown in 20% FBS media for 30 minutes, whole cell lysate at 20 µg

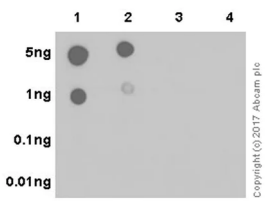
Secondary

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

Developed using the ECL technique.

Predicted band size: 29 kDa

Observed band size: 32 kDa




# Dot Blot - Anti-RPS6 (phospho S240 + S244) antibody [EPR20770] (ab215214)

Dot blot analysis of RPS6 (phospho S240 + S244) labeled with ab215214 at 1/1000 dilution.
Lane 1: RPS6 (phospho S240 + S244) peptide.

Lane 2: RPS6 (phospho S240) peptide.

Lane 3: RPS6 (phospho S244) peptide.

Lane 4: RPS6 non-phospho peptide.

Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution was used as secondary antibody.

Blocking/Dilution buffer: 5% NFDM/TBST.

Exposure time: 3 minutes.

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