

Anti-S6K1 (phospho T229) antibody ab5231

[14 References](#) [1 Image](#)

Overview

Product name	Anti-S6K1 (phospho T229) antibody
Description	Rabbit polyclonal to S6K1 (phospho T229)
Host species	Rabbit
Tested applications	Suitable for: WB
Species reactivity	Reacts with: Human
Immunogen	Synthetic peptide corresponding to Human S6K1 (phospho T229). The sequence is conserved in rat.
Positive control	Hek293 cells +/- EGF; truncated p70S6K protein, an N-terminus His-tagged fusion protein corresponding to amino acids 1-421 of human p70S6K containing a T412E mutation to become constitutively active.
General notes	<p>70 kDa ribosomal protein S6 kinase (p70S6K or p70S6K beta 1) is a member of a serine/threonine kinase family that phosphorylates the 40S ribosomal protein S6, thereby modulating the translation of ribosomal proteins and translation elongation factors. p70S6K is activated in response to the phosphatidylinositol 3-kinase (PI3K) and mitogen-activated protein kinase (MAPK) pathways, and is required for progression through the cell cycle and for cell growth. Activation of p70S6K is regulated by phosphorylation of seven different residues distributed throughout the protein, with the critical sites being threonines 229, 389, 421 and serine 424. Threonine 229 is located within the activation loop.</p> <p>The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.</p> <p>If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As</p>

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.
Storage buffer	pH: 7.30

Preservative: 0.05% Sodium azide

Constituents: PBS, 0.1% BSA

BSA is IgG and protease free

Purity

Immunogen affinity purified

Purification notes

Purified from rabbit serum by sequential epitope-specific chromatography. The antibody has been negatively preadsorbed using a non-phosphopeptide corresponding to the site of phosphorylation to remove antibody that is reactive with non-phosphorylated p70S6K. The final product is generated by affinity chromatography using a p70S6K derived peptide that is phosphorylated at threonine 229.

Primary antibody notes

70 kDa ribosomal protein S6 kinase (p70S6K or p70S6K beta 1) is a member of a serine/threonine kinase family that phosphorylates the 40S ribosomal protein S6, thereby modulating the translation of ribosomal proteins and translation elongation factors. p70S6K is activated in response to the phosphatidylinositol 3-kinase (PI3K) and mitogen-activated protein kinase (MAPK) pathways, and is required for progression through the cell cycle and for cell growth. Activation of p70S6K is regulated by phosphorylation of seven different residues distributed throughout the protein, with the critical sites being threonines 229, 389, 421 and serine 424. Threonine 229 is located within the activation loop.

Clonality

Polyclonal

Isotype

IgG

Applications

The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab5231 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB		Use a concentration of 0.1 - 1 µg/ml. Predicted molecular weight: 70 kDa.

Target

Function

Acts to integrate nutrient and growth factor signals in regulation of protein synthesis, cell proliferation, cell growth, cell cycle progression and cell survival. Downstream effector of the mTOR signaling pathway. Phosphorylates specifically ribosomal protein S6 in response to insulin or several classes of mitogens. During translation initiation, the inactive form associates with the eIF-3 complex under conditions of nutrient depletion. Mitogenic stimulation leads to phosphorylation and dissociation from the eIF-3 complex and the free activated form can phosphorylate other translational targets including EIF4B. Promotes protein synthesis by phosphorylating PDCD4 at 'Ser-67' and targeting it for degradation. Phosphorylates RICTOR leading to regulation of mammalian target of rapamycin complex 2 (mTORC2) signaling; probably phosphorylates RICTOR at 'Thr-1135'. Phosphorylates IRS1 at multiple serine residues coupled with insulin resistance; probably phosphorylates IRS1 at 'Ser-270'. Required for TNF-alpha induced IRS-1 degradation. Phosphorylates EEF2K in response to IGF1 and inhibits EEF2K activity. Phosphorylates BAD at 'Ser-99' in response to IGF1 leading to BAD inactivation and inhibition of BAD-induced apoptosis. Phosphorylates mitochondrial RMP leading to dissociation of a RMP:PPP1CC complex; probably phosphorylates RMP at 'Ser-99'. The free mitochondrial

PPP1CC can dephosphorylate RPS6KB1 at Thr-412 which is proposed to be a negative feed back mechanism for the RPS6KB1 antiapoptotic function. Phosphorylates GSK3B at 'Ser-9' under conditions leading to loss of the TSC1-TSC2 complex. Phosphorylates POLDIP3.

Tissue specificity

Widely expressed.

Sequence similarities

Belongs to the protein kinase superfamily. AGC Ser/Thr protein kinase family. S6 kinase subfamily.

Contains 1 AGC-kinase C-terminal domain.

Contains 1 protein kinase domain.

Domain

The autoinhibitory domain is believed to block phosphorylation within the AGC-kinase C-terminal domain and the activation loop.

The TOS (TOR signaling) motif is essential for activation by mTORC1.

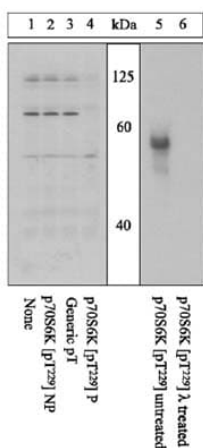
Post-translational modifications

Phosphorylation at Thr-412 is regulated by mTORC1. The phosphorylation at this site is maintained by an agonist-dependent autophosphorylation mechanism.

Cellular localization

Cytoplasm; Nucleus. Cytoplasm and Cell junction > synapse > synaptosome. Mitochondrion outer membrane.

Images



Western blot - Anti-S6K1 (phospho T229) antibody (ab5231)

Extracts prepared from Hek293 cells (1-4) or activated p70 S6 kinase protein (5, 6) were resolved on a 10% polyacrylamide gel and transferred to PVDF. Membranes were either untreated (1-5), or treated with lambda (ë) phosphatase (6), blocked with a 5% BSA-TBST buffer overnight at 4°C, then incubated with 0.50 µg/mL ab5231 for two hours at room temperature in a 3% BSA-TBST buffer, following its prior incubation with: nopeptide (1, 5, 6), the non-phosphorylated peptide corresponding to the phosphopeptide (2), a generic phosphothreonine-containing peptide (3), or, the phosphopeptide immunogen (4). After washing, membranes were incubated with goat F(ab')₂ anti-rabbit IgG alkaline phosphatase and the signal was detected using the Tropix WesternStar method. The data show that only the phosphopeptide corresponding to p70S6K [pT229] blocks the antibody signal, demonstrating the specificity of the antibody. The data also show that phosphatase stripping eliminates the si

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