Overview

**Product name**  
Anti-mTOR (phospho S2448) antibody

**Description**  
Rabbit polyclonal to mTOR (phospho S2448)

**Host species**  
Rabbit

**Tested applications**  
Suitable for: IHC-P, WB, ELISA

**Species reactivity**  
Reacts with: Human

**Immunogen**  
Synthetic peptide: KRSRTRTD<sub>p</sub>SYSAGQSVEI, corresponding to C terminal amino acids 2440-2463 of Human mTOR.

**Positive control**  
serum starved 293T cell lysate

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: 7.20  
Preservative: 0.01% Sodium azide  
Constituents: 0.42% Potassium phosphate, 0.87% Sodium chloride

**Purity**  
Immunogen affinity purified

**Clonality**  
Polyclonal

**Isotype**  
IgG

Applications

Our Abpromise guarantee covers the use of ab1093 in the following tested applications.

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

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<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
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<tbody>
<tr>
<td>IHC-P</td>
<td></td>
<td>Use a concentration of 5 µg/ml.</td>
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Function
Kinase subunit of both mTORC1 and mTORC2, which regulates cell growth and survival in response to nutrient and hormonal signals. mTORC1 is activated in response to growth factors or amino-acids. Growth factor-stimulated mTORC1 activation involves AKT1-mediated phosphorylation of TSC1-TSC2, which leads to the activation of the RHEB GTPase that potently activates the protein kinase activity of mTORC1. Amino-acid-signaling to mTORC1 requires its relocalization to the lysosomes mediated by the Ragulator complex and the Rag GTPases. Activated mTORC1 up-regulates protein synthesis by phosphorylating key regulators of mRNA translation and ribosome synthesis. mTORC1 phosphorylates EIF4EBP1 and releases it from inhibiting the elongation initiation factor 4E (eIF4E). mTORC1 phosphorylates and activates S6K1 at 'Thr-421', which then promotes protein synthesis by phosphorylating PDCD4 and targeting it for degradation. Phosphorylates MAF1 leading to attenuation of its RNA polymerase III-repressive function. mTORC2 is also activated by growth factors, but seems to be nutrient-insensitive. mTORC2 seems to function upstream of Rho GTPases to regulate the actin cytoskeleton, probably by activating one or more Rho-type guanine nucleotide exchange factors. mTORC2 promotes the serum-induced formation of stress-fibers or F-actin. mTORC2 plays a critical role in AKT1 'Ser-473' phosphorylation, which may facilitate the phosphorylation of the activation loop of AKT1 on 'Thr-308' by PDK1 which is a prerequisite for full activation. mTORC2 regulates the phosphorylation of SGK1 at 'Ser-422'. mTORC2 also modulates the phosphorylation of PRKCA on 'Ser-657'.

Tissue specificity
Expressed in numerous tissues, with highest levels in testis.

Sequence similarities
Belongs to the PI3/PI4-kinase family.
Contains 1 FAT domain.
Contains 1 FATC domain.
Contains 7 HEAT repeats.
Contains 1 PI3K/PI4K domain.

Post-translational modifications
Autophosphorylated; when part of mTORC1 or mTORC2.

Cellular localization

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<td>WB</td>
<td>1/1000. Detects a band of approximately 250 kDa (predicted molecular weight: 288 kDa).</td>
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<tr>
<td>ELISA</td>
<td>1/6000 - 1/29000. Assayed against 0.1 µg of the immunizing peptide and has not been tested against the endogenous protein.</td>
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Western blot - Anti-mTOR (phospho S2448) antibody (ab1093)

This image is courtesy of Angela Carter, Experimental Therapeutics, Ontario Cancer Inst, Toronto, Canada

Rabbit polyclonal to phospho mTOR (Ser 2448) at 1/1000 on 293T cell extract shows a band at approx 250 kDa.

Cells were serum starved for 24 hours:

Lane 1: control
Lane 2: treated with IGF-1 (100 ng/ml) for 20 min

Rabbit polyclonal to phospho mTOR (Ser 2448) at 1/1000 on 293T cell extract shows a band at approx 250 kDa. Cells were serum starved for 24 hours:

Lane 1: control
Lane 2: treated with IGF-1 (100 ng/ml) for 20 min

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-mTOR (phospho S2448) antibody (ab1093)

ab1093 at 5 µg/ml staining proximal convoluted tubules of the kidney. The image shows localization of the antibody as the precipitated red signal, with a hematoxylin purple nuclear counterstain.

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