abcam

Product datasheet

Anti-mTOR (phospho S2481) antibody [EPR427(N)] ab137133

Recombinant RabMAb

78 References 4 Images

Overview

Product name	Anti-mTOR (phospho S2481) antibody [EPR427(N)]
Description	Rabbit monoclonal [EPR427(N)] to mTOR (phospho S2481)
Host species	Rabbit
Tested applications	**Suitable for:** WB, Dot blot **Unsuitable for:** Flow Cyt,ICC/IF,IHC-P or IP
Species reactivity	**Reacts with:** Human **Predicted to work with:** Mouse, Rat
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	WB: HEK-293 and HeLa cell lysates.
General notes	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 production For more information **see here**. Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at -20ºC.
Storage buffer	pH: 7.2 Preservative: 0.01% Sodium azide Constituents: 59% PBS, 40% Glycerol (glycerin, glycerine), 0.5% BSA
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR427(N)

Isotype IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab137133 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		1/1000 - 1/10000. Predicted molecular weight: 289 kDa.
Dot blot		1/1000.

Application notes Is unsuitable for Flow Cyt,ICC/IF,IHC-P or IP.

Target

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'.

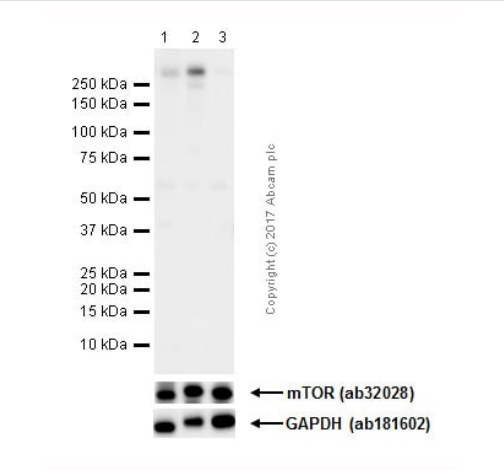
Tissue specificity Expressed in numerous tissues, with highest levels in testis.

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 Endoplasmic reticulum membrane. Golgi apparatus membrane. Mitochondrion outer membrane. Lysosome. Cytoplasm. Nucleus > PML body. Shuttles between cytoplasm and nucleus. Accumulates in the nucleus in response to hypoxia (By similarity). Targeting to lysosomes depends on amino acid availability and RRAGA and RRAGB.

Images



Western blot - Anti-mTOR (phospho S2481) antibody [EPR427(N)] (ab137133)

All lanes : Anti-mTOR (phospho S2481) antibody [EPR427(N)] (ab137133) at 1/1000 dilution (Purified)

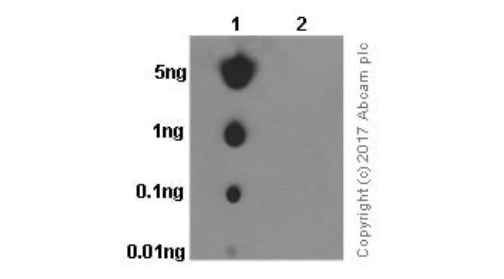
Lane 1 : HeLa (human cervix adenocarcinoma epithelial cell line) whole cell lysate
Lane 2 : HeLa grown in serum-free media overnight, then treated with 200 nM PMA for 4 hours, whole cell lysate
Lane 3 : HeLa grown in serum-free media overnight, then treated with 200 nM PMA for 4 hours, whole cell lysate. Then the membrane was incubated with alkaline phosphatase.

Lysates/proteins at 10 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/20000 dilution

Predicted band size: 289 kDa
Observed band size: 289 kDa

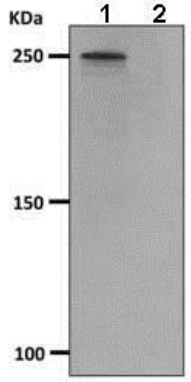
Blocking Buffer: 5% NFDM/TBST
Diluting Buffer: 5% NFDM/TBST



Dot Blot - Anti-mTOR (phospho S2481) antibody [EPR427(N)] (ab137133)

Dot blot analysis of mTOR (phospho S2481) phospho peptide (Lane 1) and mTOR non-phospho peptide (Lane 2) labeling mTOR (phospho S2481) phospho peptide with purified ab137133 at a dilution of 1/1000 (1.21ug/ml). A Goat Anti-Rabbit IgG (H+L) Peroxidase conjugated (**ab97051**) was used as the secondary antibody at a dilution of 1/20,000 dilution.

Blocking buffer: 5% NFDM/TBST
Diluting buffer: 5% NFDM /TBST



Western blot - Anti-mTOR (phospho S2481) antibody [EPR427(N)] (ab137133)

All lanes : Anti-mTOR (phospho S2481) antibody [EPR427(N)] (ab137133) at 1/1000 dilution

Lane 1 : HEK-293 (human epithelial cell line from embryonic kidney) cell lysate, untreated
Lane 2 : HEK-293 cell lysate, treated with Lambda Phosphatase

Lysates/proteins at 10 µg per lane.

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

Predicted band size: 289 kDa

Anti-mTOR (phospho S2481) antibody [EPR427(N)] (ab137133)

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