

Product datasheet

Anti-mTOR antibody [EPR390(N)] ab134903

KO VALIDATED Recombinant RabMAb

27 References 6 Images

Overview

Product name	Anti-mTOR antibody [EPR390(N)]
Description	Rabbit monoclonal [EPR390(N)] to mTOR
Host species	Rabbit
Specificity	Expression levels of the target protein vary with sample type and some optimisation may be required.
Tested applications	Suitable for: WB Unsuitable for: Flow Cyt, ICC/IF, IHC-P or IP
Species reactivity	Reacts with: Mouse, Rat, Human
Immunogen	Synthetic peptide corresponding to residues near the N terminus of Human mTOR (UniProt ID: P42345).
Positive control	WB: Human brain, heart, liver and kidney lysates, Mouse brain heart, liver and kidney lysates, Rat brain, heart and kidney lysates, HeLa, Jurkat, MCF7, K562, Raji, HepG2, and HEK-293T 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](#).

We are constantly working hard to ensure we provide our customers with best in class antibodies. As a result of this work we are pleased to now offer this antibody in purified format. We are in the process of updating our datasheets. The purified format is designated 'PUR' on our product labels. If you have any questions regarding this update, please contact our Scientific Support team.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at -20°C. Stable for 12 months at -20°C.
Storage buffer	pH: 7.2 Preservative: 0.01% Sodium azide Constituents: 9% PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA, 50% Tissue culture supernatant
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR390(N)
Isotype	IgG

Applications

The Abpromise guarantee Our [Abpromise guarantee](#) covers the use of ab134903 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		1/10000. Predicted molecular weight: 289 kDa.

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 potentially 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.

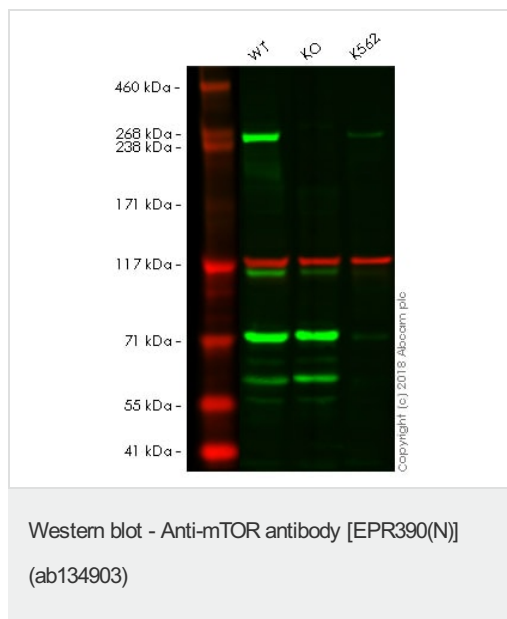
Post-translational modifications

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



All lanes : Anti-mTOR antibody [EPR390(N)] (ab134903) at 1/10000 dilution

Lane 1 : Wild-type HEK293T whole cell lysate

Lane 2 : MTOR knockout HEK293T whole cell lysate

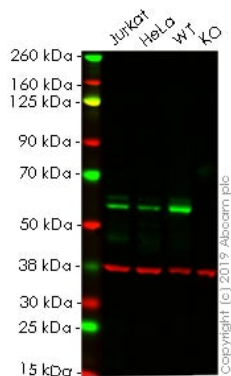
Lane 3 : K562 whole cell lysate

Lysates/proteins at 20 µg per lane.

Predicted band size: 289 kDa

Lanes 1 - 3: Merged signal (red and green). Green - ab134903 observed at 289 kDa. Red - loading control, ab130007, observed at 130 kDa.

ab134903 was shown to specifically react with mTOR in wild-type HEK293T cells as signal was lost in MTOR knockout cells. Wild-type and MTOR knockout samples were subjected to SDS-PAGE. Ab134903 and ab130007 (Mouse anti-Vinculin loading control) were incubated overnight at 4°C at 1/10000 dilution and 1/20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed ab216773 and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed ab216776 secondary antibodies at 1/20000 dilution for 1 hour at room temperature before imaging.



Western blot - Anti-mTOR antibody [EPR390(N)]
(ab134903)

All lanes : Anti-mTOR antibody [EPR390(N)] (ab134903) at 1/1000 dilution

Lane 1 : Jurkat cell lysate

Lane 2 : HeLa cell lysate

Lane 3 : Wild-type HEK-293T cell lysate

Lane 4 : MYC knockout HEK-293T cell lysate

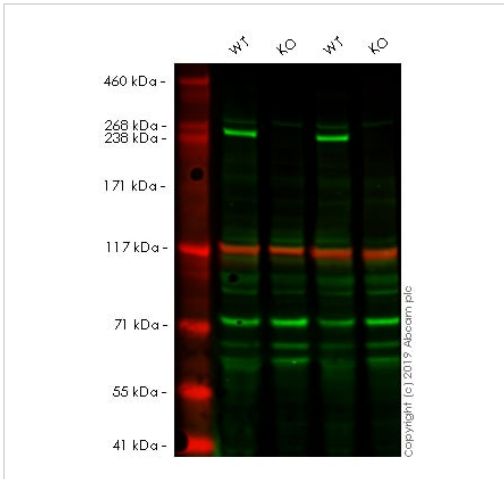
Lysates/proteins at 20 µg per lane.

Predicted band size: 289 kDa

Lanes 1 -4: Merged signal (red and green). Green - [ab32072](#) observed at 57 kDa. Red - loading control, [ab8245](#) observed at 37 kDa.

[ab32072](#) was shown to react with MYC in wild-type HEK-293T.

Loss of signal was observed when knockout sample [ab263850](#) was used. Wild-type and MYC knockout samples were subjected to SDS-PAGE. [ab32072](#) and Anti-GAPDH antibody [6C5] - Loading Control ([ab8245](#)) were incubated overnight at 4 °C at 1/1000 dilution and 1/20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed ([ab216773](#)) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed ([ab216776](#)) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.



Western blot - Anti-mTOR antibody [EPR390(N)]
(ab134903)

All lanes : Anti-mTOR antibody [EPR390(N)] (ab134903) at 1/10000 dilution

Lane 1 : Wild-type HEK-293 cell lysate

Lane 2 : MTOR knockout HEK-293 cell lysate

Lane 3 : Wild-type HEK-293T cell lysate

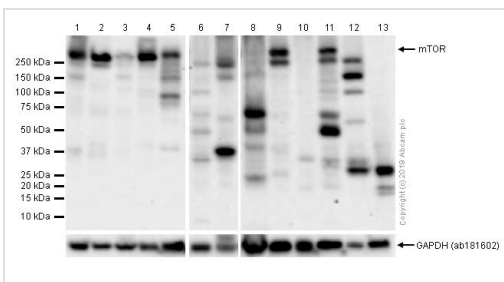
Lane 4 : MTOR knockout HEK-293T cell lysate

Lysates/proteins at 20 µg per lane.

Predicted band size: 289 kDa

Lanes 1 -4: Merged signal (red and green). Green - ab134903 observed at 289 kDa. Red - loading control, ab130007 observed at 125 kDa.

ab134903 was shown to react with mTOR in wild-type HEK-293T cells. Loss of signal was observed when knockout cell line ab255411 (knockout cell lysate ab263789) was used. Wild-type and mTOR knockout samples were subjected to SDS-PAGE. ab134903 and Anti-Vinculin antibody [VIN-54] (ab130007) were incubated overnight at 4°C at 1 in 10000 dilution and 1 in 20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (ab216776) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.



Western blot - Anti-mTOR antibody [EPR390(N)]
(ab134903)

All lanes : Anti-mTOR antibody [EPR390(N)] (ab134903) at 1/1000 dilution

Lane 1 : MCF7 (Human breast adenocarcinoma epithelial cell) whole cell lysates

Lane 2 : HepG2 (Human hepatocellular carcinoma epithelial cell) whole cell lysates

Lane 3 : Human brain lysates

Lane 4 : Mouse brain lysates

Lane 5 : Rat brain lysates

Lane 6 : Human liver lysates

Lane 7 : Mouse liver lysates

Lane 8 : Human heart lysates

Lane 9 : Mouse heart lysates

Lane 10 : Rat heart lysates
Lane 11 : Human kidney lysates
Lane 12 : Mouse kidney lysates
Lane 13 : Rat kidney lysates

Lysates/proteins at 20 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: 290 kDa

Blocking buffer and concentration 5% NFDm/TBST

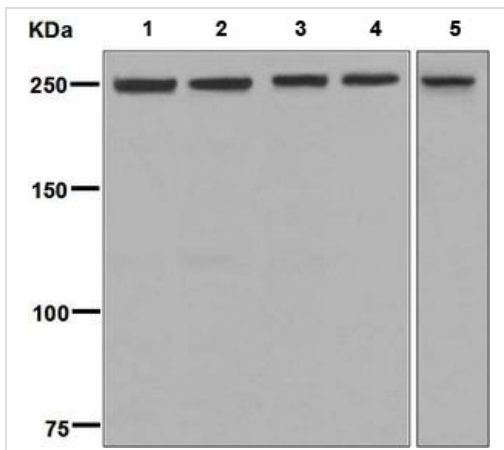
Diluting buffer and concentration 5% NFDm/TBST

Exposure time:

Lane 1 to 5: 80 seconds

Lane 6 to 13: 180 seconds

This antibody detects non-specific bands. It doesn't detect the target band in some mouse and rat tissues.



Western blot - Anti-mTOR antibody [EPR390(N)]
([ab134903](#))

All lanes : Anti-mTOR antibody [EPR390(N)] ([ab134903](#)) at 1/10000 dilution

Lane 1 : HeLa cell lysate

Lane 2 : K562 cell lysate

Lane 3 : Raji cell lysate

Lane 4 : HepG2 cell lysate

Lane 5 : 293T cell lysate

Lysates/proteins at 10 µg per lane.

Secondary

All lanes : HRP-conjugated goat anti-rabbit polyclonal IgG at 1/2000 dilution

Predicted band size: 289 kDa

Observed band size: 289 kDa

Why choose a recombinant antibody?



Research with confidence
Consistent and reproducible results



Long-term and scalable supply
Recombinant technology



Success from the first experiment
Confirmed specificity



Ethical standards compliant
Animal-free production

Anti-mTOR antibody [EPR390(N)] (ab134903)

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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