

Datasheet for ABIN747178

## **anti-MTOR antibody (pSer2481) (Cy5.5)**



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### Overview

|                      |                                                                                                                                                       |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| Quantity:            | 100 µL                                                                                                                                                |
| Target:              | MTOR (mTOR)                                                                                                                                           |
| Binding Specificity: | pSer2481                                                                                                                                              |
| Reactivity:          | Human, Mouse, Rat                                                                                                                                     |
| Host:                | Rabbit                                                                                                                                                |
| Clonality:           | Polyclonal                                                                                                                                            |
| Conjugate:           | This MTOR antibody is conjugated to Cy5.5                                                                                                             |
| Application:         | Western Blotting (WB), Flow Cytometry (FACS), Immunofluorescence (Paraffin-embedded Sections) (IF (p)), Immunofluorescence (Cultured Cells) (IF (cc)) |

### Product Details

|                       |                                                                                                            |
|-----------------------|------------------------------------------------------------------------------------------------------------|
| Immunogen:            | KLH conjugated synthetic phosphopeptide derived from human mTOR around the phosphorylation site of Ser2481 |
| Isotype:              | IgG                                                                                                        |
| Specificity:          | This phosphorylation site is homologous in the listed cross reactive species at the specified location.    |
| Cross-Reactivity:     | Human, Mouse, Rat                                                                                          |
| Predicted Reactivity: | Dog, Sheep, Pig, Horse, Rabbit                                                                             |
| Purification:         | Purified by Protein A.                                                                                     |

# Target Details

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| Target:           | MTOR (mTOR)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Alternative Name: | mTOR ( <a href="#">mTOR Products</a> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Background:       | <p>Synonyms: FRAP, FRAP1, FRAP2, RAFT1, RAPT1, Serine/threonine-protein kinase mTOR, FK506-binding protein 12-rapamycin complex-associated protein 1, FKBP12-rapamycin complex-associated protein, Mammalian target of rapamycin, mTOR, Mechanistic target of rapamycin, Rapamycin and FKBP12 target 1, Rapamycin target protein 1</p> <p>Background: Serine/threonine protein kinase which is a central regulator of cellular metabolism, growth and survival in response to hormones, growth factors, nutrients, energy and stress signals. MTOR directly or indirectly regulates the phosphorylation of at least 800 proteins. Functions as part of 2 structurally and functionally distinct signaling complexes mTORC1 and mTORC2 (mTOR complex 1 and 2). Activated mTORC1 up-regulates protein synthesis by phosphorylating key regulators of mRNA translation and ribosome synthesis. This includes phosphorylation of EIF4EBP1 and release of its inhibition toward the elongation initiation factor 4E (eiF4E). Moreover, phosphorylates and activates RPS6KB1 and RPS6KB2 that promote protein synthesis by modulating the activity of their downstream targets including ribosomal protein S6, eukaryotic translation initiation factor EIF4B, and the inhibitor of translation initiation PDCD4. Stimulates the pyrimidine biosynthesis pathway, both by acute regulation through RPS6KB1-mediated phosphorylation of the biosynthetic enzyme CAD, and delayed regulation, through transcriptional enhancement of the pentose phosphate pathway which produces 5-phosphoribosyl-1-pyrophosphate (PRPP), an allosteric activator of CAD at a later step in synthesis, this function is dependent on the mTORC1 complex. Regulates ribosome synthesis by activating RNA polymerase III-dependent transcription through phosphorylation and inhibition of MAF1 an RNA polymerase III-repressor. In parallel to protein synthesis, also regulates lipid synthesis through SREBF1/SREBP1 and LPIN1. To maintain energy homeostasis mTORC1 may also regulate mitochondrial biogenesis through regulation of PPARGC1A. mTORC1 also negatively regulates autophagy through phosphorylation of ULK1. Under nutrient sufficiency, phosphorylates ULK1 at 'Ser-758', disrupting the interaction with AMPK and preventing activation of ULK1. Also prevents autophagy through phosphorylation of the autophagy inhibitor DAP.</p> |
| Gene ID:          | 2475                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| UniProt:          | <a href="#">P42345</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Pathways:         | <a href="#">PI3K-Akt Signaling</a> , <a href="#">RTK Signaling</a> , <a href="#">AMPK Signaling</a> , <a href="#">Interferon-gamma Pathway</a> , <a href="#">Fc-epsilon Receptor Signaling Pathway</a> , <a href="#">EGFR Signaling Pathway</a> , <a href="#">Neurotrophin Signaling Pathway</a> , <a href="#">Regulation of Actin Filament Polymerization</a> , <a href="#">Regulation of Muscle Cell Differentiation</a> ,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

## Target Details

Regulation of Cell Size, Skeletal Muscle Fiber Development, Regulation of Carbohydrate Metabolic Process, Autophagy, CXCR4-mediated Signaling Events, BCR Signaling, Warburg Effect

## Application Details

Application Notes: FCM 1:20-100  
IF(IHC-P) 1:50-200  
IF(IHC-F) 1:50-200  
IF(ICC) 1:50-200

Restrictions: For Research Use only

## Handling

Format: Liquid

Concentration: 1 µg/µL

Buffer: Aqueous buffered solution containing 0.01M TBS ( pH 7.4) with 1 % BSA, 0.03 % Proclin300 and 50 % Glycerol.

Preservative: ProClin

Precaution of Use: This product contains ProClin: a POISONOUS AND HAZARDOUS SUBSTANCE, which should be handled by trained staff only.

Storage: -20 °C

Storage Comment: Store at -20°C. Aliquot into multiple vials to avoid repeated freeze-thaw cycles.

Expiry Date: 12 months