# mTOR Antibody

**Store at -20°C**

## Applications

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## Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

## Specificity / Sensitivity

mTOR Antibody detects endogenous levels of total mTOR. It cross-reacts weakly with some other proteins based on Western analysis.

**Species Reactivity:**

- Human, Mouse, Rat, Monkey

**Species predicted to react based on 100% sequence homology:**

- Pig, Horse

## Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ser2481 of human mTOR. Antibodies are purified by protein A and peptide affinity chromatography.

## Background

The mammalian target of rapamycin (mTOR, FRAP, RAFT) is a Ser/Thr protein kinase (1-3) that functions as an ATP and amino acid sensor to balance nutrient availability and cell growth (4,5). When sufficient nutrients are available, mTOR responds to a phosphatidic acid-mediated signal to transmit a positive signal to p70 S6 kinase and participate in the inactivation of the eIF4E inhibitor, 4E-BP1 (6). These events result in the translation of specific mRNA subpopulations. mTOR is phosphorylated at Ser2448 via the PI3 kinase/Akt signaling pathway and autophosphorylated at Ser2481 (7,8). mTOR plays a key role in cell growth and homeostasis and may be abnormally regulated in tumors. For these reasons, mTOR is currently under investigation as a potential target for anti-cancer therapy (9).


**For Research Use Only. Not For Use In Diagnostic Procedures.**

**APPLICATIONS KEY**

- WB: Western Blot
- IP: Immunoprecipitation
- IHC: Immunohistochemistry
- ChIP: Chromatin Immunoprecipitation
- IF: Immunofluorescence
- F: Flow Cytometry
- EP: ELISA-Peptide

**CROSS-REACTIVITY KEY**

- H: human
- M: mouse
- R: rat
- Hm: hamster
- Mk: monkey
- Mm: mink
- C: chicken
- Dm: D. melanogaster
- X: Xenopus
- Z: zebrafish
- B: bovine
- Dg: dog
- Pg: pig
- Sc: S. cerevisiae
- Ce: C. elegans
- Hr: horse
- All: all species expected

**IMPORTANT:** For primary antibodies recommended for western blotting applications, we recommend incubating the membrane with diluted antibody at 4°C with gentle shaking overnight. Please refer to the product-specific protocol for our antibody diluent recommendation.

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