

#2972 Store at -20°C

mTOR Antibody

100 µl
 (10 western blots)

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This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W, IP Endogenous	H, M, R, Mk	289 kDa	Rabbit**

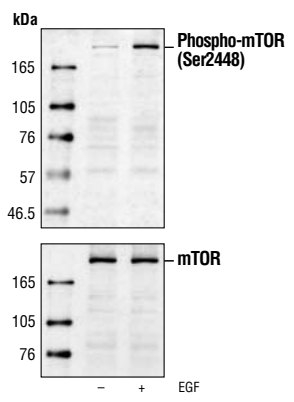
Background: The mammalian target of rapamycin (mTOR, FRAP, RAFT) is a Ser/Thr protein kinase (1-3) that functions as an ATP and amino acid sensor to balance nutrient availability and cell growth (4,5). When sufficient nutrients are available, mTOR responds to a phosphatidic acid-mediated signal to transmit 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).

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

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 References:

- (1) Sabers, C.J. et al. (1995) *J. Biol. Chem.* 270, 815–822.
- (2) Brown, E.J. et al. (1994) *Nature* 369, 756–758.
- (3) Sabatini, D.M. et al. (1994) *Cell* 78, 35–43.
- (4) Gingras, A.C. et al. (2001) *Genes Dev.* 15, 807–826.
- (5) Dennis, P.B. et al. (2001) *Science* 294, 1102–1105.
- (6) Fang, Y. et al. (2001) *Science* 294, 1942–1945.
- (7) Navé, B.T. et al. (1999) *Biochem. J.* 344 Pt 2, 427–431.
- (8) Peterson, R.T. et al. (2000) *J. Biol. Chem.* 275, 7416–7423.
- (9) Huang, S. and Houghton, P.J. (2003) *Curr. Opin. Pharmacol.* 3, 371–377.



Western blot analysis of extracts from 293 cells (starved for 16 hours), untreated or EGF-treated (100 ng/ml), using Phospho-mTOR (Ser2448) antibody #2971 (upper) or mTOR Antibody (lower).

Entrez-Gene ID #2475
Swiss-Prot Acc. #P42345

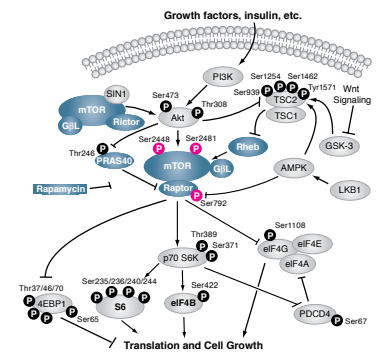
Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

*Species cross-reactivity is determined by western blot.
**Anti-rabbit secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:
 Western Blotting 1:1000
 Immunoprecipitation 1:100

For application specific protocols please see the web page for this product at www.cellsignaling.com.

Please visit www.cellsignaling.com for a complete listing of recommended companion products.



IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide
Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—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 Species enclosed in parentheses are predicted to react based on 100% homology.