#5536
Store at -20°C

Phospho-mTOR (Ser2448) (D9C2) XP® Rabbit mAb

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

![Image](https://via.placeholder.com/150)

**Applications**
- W, IP, IF-IC
- Endogenous

**Species Cross-Reactivity**
- H, M, R, Mk, (C, Pg, Hr)

**Molecular Wt.**
- 289 kDa

**Isotype**
- Rabbit IgG

**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:** Phospho-mTOR (Ser2448) (D9C2) XP® Rabbit mAb detects endogenous levels of mTOR protein only when phosphorylated at Ser2448.

**Source/Purification:** Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Ser2448 of human mTOR protein.

**Background References:**

**Recommended Antibody Dilutions:**
- Western blotting 1:1000
- Immunoprecipitation 1:50
- Immunofluorescence (IF-IC) 1:50

**Recommended Antibodies:**
- mTOR (7C10) Rabbit mAb #2983

**Western blot analysis of extracts from serum-starved NIH/3T3 cells, untreated or insulin-treated (150 nM, 5 minutes), alone or in combination with λ-phosphatase, using Phospho-mTOR (Ser2448) (D9C2) XP® Rabbit mAb (upper) or mTOR (7C10) Rabbit mAb #2983.**

**Applications Key:**
- W—Western
- IP—Immunoprecipitation
- IH—Immunohistochemistry
- ChimP—Chromatin Immunoprecipitation
- IF—Immunofluorescence
- FI—Flow cytometry
- 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 species are expected.

**Storage:** Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. 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 1:50
- Immunofluorescence (IF-IC) 1:50

**For product specific protocols and a complete listing of recommended companion products please see the product web page at www.cellsignal.com.**

**Entrez-Gene ID** #2475
**UniProt ID** #P42345

**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.

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Confocal immunofluorescent analysis of HeLa cells, rapamycin-treated (#9904, 10 μM for 2 hours, left), insulin-treated (150 nM for 6 minutes, middle) or insulin- and λ-phosphatase-treated (right), using Phospho-mTOR (Ser2448) (D9C2) XP® Rabbit mAb (green). Actin filaments were labeled with DyLight™ 554 Phalloidin #13054 (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).