### Phospho-mTOR (Ser2448) (49F9) Rabbit mAb (IHC Specific)

**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.

**Recommended Antibody Dilutions:**
- **Immunohistochemistry (Paraffin)**: 1:100†
- Unmasking buffer: Citrate
- Antibody diluent: TBST-5%NGS
- Detection reagent: SignalStain® Boost (HRP, Rabbit) #8114

†Optimal IHC dilutions determined using SignalStain® Boost IHC Detection Reagent.

- **Immunohistochemistry (Frozen)**: 1:100
- Fixative: Acetone

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

**Applications**

<table>
<thead>
<tr>
<th>Applications</th>
<th>Species Cross-Reactivity</th>
<th>Molecular Wt.</th>
<th>Isotype</th>
</tr>
</thead>
<tbody>
<tr>
<td>IHC-P, IHC-F</td>
<td>H, (M, R)</td>
<td>289 kDa</td>
<td>Rabbit IgG*</td>
</tr>
</tbody>
</table>

**Background:** The mammalian target of rapamycin, mTOR, also known as FRAP or RAFT (1-3), is a Ser/Thr protein kinase. mTOR acts as a sensor for ATP and amino acids, balancing the availability of nutrients and cell growth (4,5). When sufficient nutrients are available, mTOR responds to a phosphatidic acid-mediated signal (6), transmits a positive signal to p70 S6 kinase and participates in the inactivation of the eIF4E inhibitor, 4E-BP1. 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 cellular growth and homeostasis and its regulation is frequently altered in tumors. For these reasons, mTOR is currently under investigation as a potential target for anti-cancer therapy (9).

**Specificity/Sensitivity:** Phospho-mTOR (Ser2448) (49F9) 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.

**Background References:**

**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—IHC
- ChIP—ChIP
- IF—IF
- F—Flow cytometry
- E—ELISA

**Species 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

**Entrez-Gene ID** #2976
**UniProt ID** #P42345

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**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. *Anti-rabbit secondary antibodies must be used to detect this antibody.

**Recommended Antibody Dilutions:**
- Immunohistochemistry (Paraffin): 1:100†
- Unmasking buffer: Citrate
- Antibody diluent: TBST-5%NGS
- Detection reagent: SignalStain® Boost (HRP, Rabbit) #8114

†Optimal IHC dilutions determined using SignalStain® Boost IHC Detection Reagent.

- Immunohistochemistry (Frozen): 1:100
- Fixative: Acetone

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Please visit www.cellsignal.com for a complete listing of recommended companion products.
Immunohistochemical analysis of paraffin-embedded human colon carcinoma untreated (left) or λ phosphatase-treated (right), using Phospho-mTOR (Ser2448) (49F9) Rabbit mAb (IHC Specific).

Immunohistochemical analysis of paraffin-embedded human transitional epithelial carcinoma of the bladder using Phospho-mTOR (Ser2448) (49F9) Rabbit mAb (IHC Specific) in the presence of control peptide (left) or Phospho-mTOR (Ser 2448) Blocking Peptide #1230 (right).