

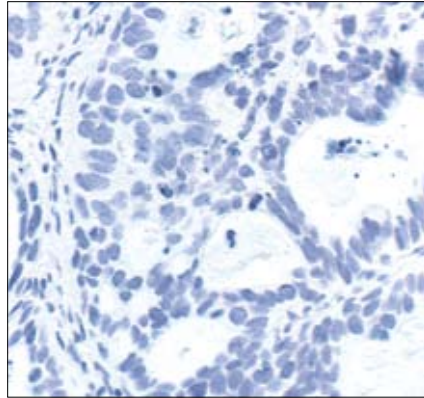
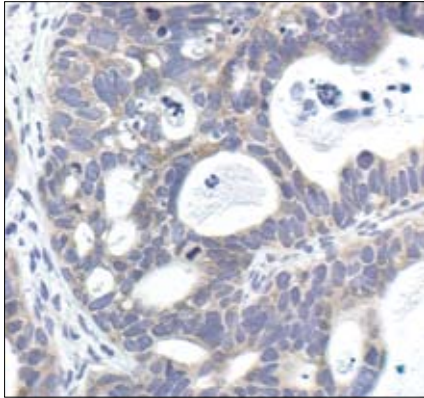
mTOR Blocking Peptide

✓ 100 µg

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rev. 10/17/06

This product is for *in vitro* research use only and is not intended for use in humans or animals.



Immunohistochemical analysis of paraffin-embedded human lung carcinoma, using mTOR (7C10) Rabbit mAb (#2983) in the presence of control peptide (left) or mTOR Blocking Peptide (right).

Description: This peptide is used to specifically block mTOR (7C10) Rabbit mAb #2983 reactivity.

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).

Quality Control: The quality of the peptide was evaluated by reversed-phase HPLC and by mass spectrometry. The peptide blocks mTOR (7C10) Rabbit mAb #2983 signal in immunohistochemistry.

Applications: Use as a blocking reagent to evaluate the specificity of antibody reactivity in immunohistochemistry protocols.

Directions for Use: For immunohistochemistry, add twice the volume of peptide as volume of antibody used in 100 µl total volume. Incubate for a minimum of 30 minutes prior to adding the entire volume to the slide. Recommended antibody dilutions can be found on the product data sheet.

Background References:

- (1) Sabers, C.J. et al. (1995) *J Biol Chem* 270, 815–22.
- (2) Brown, E.J. et al. (1994) *Nature* 369, 756–8.
- (3) Sabatini, D.M. et al. (1994) *Cell* 78, 35–43.
- (4) Gingras, A.C. et al. (2001) *Genes Dev* 15, 807–26.
- (5) Dennis, P.B. et al. (2001) *Science* 294, 1102–5.
- (6) Fang, Y. et al. (2001) *Science* 294, 1942–5.
- (7) Navé, B.T. et al. (1999) *Biochem J* 344 Pt 2, 427–31.
- (8) Peterson, R.T. et al. (2000) *J Biol Chem* 275, 7416–23.
- (9) Huang, S. and Houghton, P.J. (2003) *Curr Opin Pharmacol* 3, 371–7.

Storage: Supplied in 20 mM potassium phosphate (pH 7.0), 50 mM NaCl, 0.1 mM EDTA, 1 mg/ml BSA and 5% glycerol. Store at -20°C.

Companion Products:
mTOR (7C10) Rabbit mAb #2983