

Store at  
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#39182**PhosphoPlus® mTOR (Ser2448) Antibody Duet**

**Orders:** 877-616-CELL (2355)  
orders@cellsignal.com

**Support:** 877-678-TECH (8324)

**Web:** info@cellsignal.com  
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

**For Research Use Only. Not for Use in Diagnostic Procedures.**

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

Product Includes	Product #	Quantity	Mol. Wt	Isotype/Source
Phospho-mTOR (Ser2448) (D9C2) XP® Rabbit mAb	5536	100 µl	289 kDa	Rabbit IgG
mTOR (7C10) Rabbit mAb	2983	100 µl	289 kDa	Rabbit IgG

Please visit [cellsignal.com](http://cellsignal.com) for individual component applications, species cross-reactivity, dilutions, protocols, and additional product information.

**Description**

PhosphoPlus® Duets from Cell Signaling Technology (CST) provide a means to assess protein activation status. Each Duet contains an activation-state and total protein antibody to your target of interest. These antibodies have been selected from CST's product offering based upon superior performance in specified applications.

**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.

**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).

**Background References**

1. Sabers, C.J. et al. (1995) *J Biol Chem* 270, 815-22.
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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.
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9. Huang, S. and Houghton, P.J. (2003) *Curr Opin Pharmacol* 3, 371-7.

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