

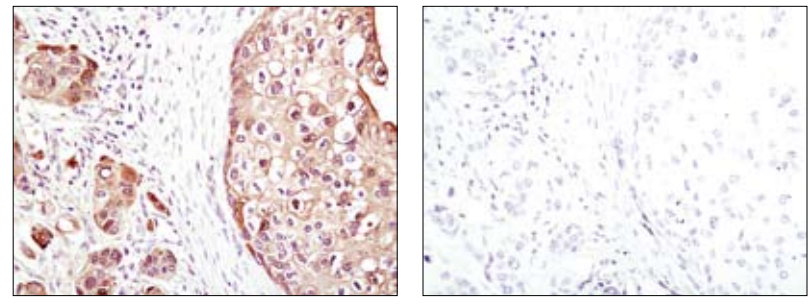
4E-BP1 Blocking Peptide

✓ 100 µg

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rev. 11/07/07

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 breast carcinoma using 4E-BP1 (53H11) Rabbit mAb #9644 in the presence of control peptide (left) or 4E-BP1 Blocking Peptide (right).

Description: This peptide is used to block 4E-BP1 (53H11) Rabbit mAb #9644 reactivity in immunohistochemistry protocols, and #9644 and 9452 reactivity in western blot protocols.

Background: Translation repressor protein 4E-BP1 (also known as PHAS-1) inhibits cap-dependent translation by binding to the eIF4E translation initiation factor. Hyperphosphorylation of 4E-BP1 disrupts this interaction and cap-dependent translation is activated (1). Both the PI3 kinase/Akt pathway and FRAP/mTOR kinase regulate 4E-BP1 activity (2,3). Multiple 4E-BP1 residues are phosphorylated *in vivo* (4). While phosphorylation by FRAP/mTOR on Thr37 and Thr46 does not prevent the binding of 4E-BP1 to eIF4E, it is thought to prime 4E-BP1 for subsequent phosphorylation at Ser65 and Thr70 (5).

Quality Control: The quality of the peptide was evaluated by reversed-phase HPLC and by mass spectrometry. The peptide blocks 4E-BP1 (53H11) Rabbit mAb #9644 signal in immunohistochemistry.

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) Pause, A. et al. (1994) *Nature* 371, 762–767.
 - (2) Brunn, G.J. et al. (1997) *Science* 277, 99–101.
 - (3) Gingras, A.C. et al. (1998) *Genes Dev.* 12, 502–513.
 - (4) Fadden, P. et al. (1997) *J. Biol. Chem.* 272, 10240–10247.
 - (5) Gingras, A.C. et al. (1999) *Genes Dev.* 13, 1422–1437.

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:
4E-BP1 (53H11) Rabbit mAb #9644
4E-BP1 Antibody #9452