

4E-BP1 Blocking Peptide

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

Background: Translation repressor protein 4E-BP1 (also known as PHAS-1) inhibits cap-dependent translation by binding to the translation initiation factor eIF4E. Hyperphosphorylation of 4E-BP1 disrupts this interaction and results in activation of cap-dependent translation (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 at 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 peptide dot blot.

Directions for Use: Use as a blocking reagent to evaluate the specificity of antibody reactivity in peptide dot blot protocols. 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.

Entrez Gene ID #1978

UniProt ID #Q13541

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