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#2846

## Phospho-4E-BP1 (Thr37/46) (236B4) Rabbit mAb (Alexa Fluor® 488 Conjugate)

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

Applications:	Reactivity:	Sensitivity:	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
FC-FP	H M R Mk Dm	Endogenous	Rabbit IgG	#Q13541	1978

Product Usage Information	Application	Dilution
	Flow Cytometry (Fixed/Permeabilized)	1:50
<b>Storage</b>	Supplied in PBS (pH 7.2), less than 0.1% sodium azide and 2 mg/ml BSA. Store at 4°C. Do not aliquot the antibody. Protect from light. Do not freeze.	
<b>Specificity/Sensitivity</b>	Phospho-4E-BP1 (Thr37/46) (236B4) Rabbit mAb (Alexa Fluor® 488 Conjugate) detects endogenous levels of 4E-BP1 only when phosphorylated at Thr37 and/or Thr46. This antibody may cross-react with 4E-BP2 and 4E-BP3 when phosphorylated at equivalent sites.	
<b>Source / Purification</b>	Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Thr37 and Thr46 of mouse 4E-BP1. The antibody was conjugated to Alexa Fluor® 488 under optimal conditions with an F/P ratio of 2-5.	
<b>Description</b>	Cell Signaling Technology antibody conjugated to Alexa Fluor® 488 fluorescent dye and tested in-house for direct flow cytometric analysis of human cells. The unconjugated antibody, #2855, reacts with Phospho-4E-BP1 (Thr37/46) from human, mouse, rat and monkey. CST expects that phospho-4E-BP1 (Thr37/46) (236B4) Rabbit mAb (Alexa Fluor® 488 Conjugate) will also recognize Phospho-4E-BP1 in these species.	
<b>Background</b>	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 <i>in vivo</i> (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).	
<b>Background References</b>	<ol style="list-style-type: none"> <li>1. Pause, A. et al. (1994) <i>Nature</i> 371, 762-7.</li> <li>2. Brunn, G.J. et al. (1997) <i>Science</i> 277, 99-101.</li> <li>3. Gingras, A.C. et al. (1998) <i>Genes Dev</i> 12, 502-13.</li> <li>4. Fadden, P. et al. (1997) <i>J Biol Chem</i> 272, 10240-7.</li> <li>5. Gingras, A.C. et al. (1999) <i>Genes Dev</i> 13, 1422-37.</li> </ol>	

**Species Reactivity** Species reactivity is determined by testing in at least one approved application (e.g., western blot).

**Applications Key** **FC-FP:** Flow Cytometry (Fixed/Permeabilized)

**Cross-Reactivity Key** **H:** Human **M:** Mouse **R:** Rat **Mk:** Monkey **Dm:** D. melanogaster

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