

4E-BP1 antibody (pAb)

Rabbit Anti-Human/Mouse 4E-BP1 (Eukaryotic Translation Initiation Factor)

Instruction Manual

Catalog Number	PK-AB718-3513
Synonyms	4E-BP1 Antibody: initiation factor 4E binding protein 1
Description	The translation of mRNA in eukaryotic cells is regulated by the presence of amino acids through multiple mechanisms. One such mechanism involves the evolutionarily conserved serine/threonine kinase TOR (Target of rapamycin, also known as mTOR), which regulates cell growth and cell cycle through its ability to integrate signals from nutrient levels and growth factors. One downstream target of TOR is the eukaryotic initiation factor 4E binding protein 1 (4E-BP1) whose phosphorylation prevents its association with eIF4E, preferentially stimulating translation of mRNAs containing long, highly structured 5'-UTRs. Rapamycin inhibits TOR resulting in reduced cell growth and reduced rates of cell cycle and cell proliferation, at least in part by inhibiting the activity of TOR towards 4E-BP1.
Quantity	100 µg
Source / Host	Rabbit
Immunogen	Rabbit polyclonal 4E-BP1 antibody was raised against a 14 amino acid peptide from near the carboxy-terminus of human 4E-BP1 (Genbank accession No. NP_940995). Anti-4E-BP1 is human and mouse reactive.
Purification Method	Affinity chromatography purified via peptide column.
Clone / IgG Subtype	Polyclonal antibody
Species Reactivity	Human, Mouse
Specificity	
Formulation	Antibody is supplied in PBS containing 0.02% sodium azide.
Reconstitution	During shipment, small volumes of antibody will occasionally become entrapped in the seal of the product vial. For products with volumes of 200 µl or less, we recommend gently tapping the vial on a hard surface or briefly centrifuging the vial in a tabletop centrifuge to dislodge any liquid in the container's cap.
Storage & Stability	Antibody can be stored at 4°C for three months and at -20°C for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Applications	E, WB, ICC INote: Antibody might be suitable for other applications not tested so far. Optimal concentrations for each application have to be determined individually. Application have to be determined individually. 4E-BP1 antibody can be used for the detection of 4E-BP1 by Western blot at 2.5 - 10 µg/mL. Antibody can also be used for immunocytochemistry starting at 2 µg/mL.
Images	Available upon request.
References	Shah OJ, Anthony JC, Kimball SR, et al. 4E-BP1 and S6K1: translational integration sites for nutritional and hormonal information in muscle. <i>Am. J. Physiol. Endocrinol. Metab.</i> 2000; 279:E715-29. Shamji AF, Ngeim P, and Schreiber SL. Integration of growth factor and nutrient signaling: implications for cancer biology. <i>Mol. Cell</i> 2003; 12:271-80. Fingar DC and Blenis J. Target of rapamycin (TOR): an integrator of nutrient and growth factor signals and coordinator of cell growth and cell cycle progression. <i>Oncogene</i> 2004; 23:3151-71.
Images	Available upon request.
Related Products	Blocking Peptide, Cat. No. PK-AB718-3513P 3T3 Cell Lysate, Cat. No. PK-AB718-1212 TOR Antibody (NT), Cat. No. 34 PK-AB718-85; Raptor Antibody (CT), Cat. No. PK-AB718-3489 GβL Antibody, Cat. No. PK-AB718-3495

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