

Anti-Phospho-4E-BP1/2/3 (T45) Antibody [3G2]

RT1004



Product Type:	Mouse monoclonal IgG2a, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IP, IF
Molecular Wt:	21 kDa
Clone number:	3G2

Description: The multisubunit eukaryotic translation initiation factor (eIF) 4F recruits 40S ribosomal subunits to the 5' end of mRNA. The eIF4F subunit eIF4E interacts directly with the mRNA 5' cap structure. Assembly of the eIF4F complex is inhibited by a family of repressor polypeptides, the eIF4E-binding proteins (4E-BPs). 4E-BP1 (also known as PHAS-1) normally binds eIF4E, inhibiting cap-dependent translation. Hyper-phosphorylation of 4E-BP1 disrupts this binding, activating cap-dependent translation. The PI3-kinase/Akt pathway and the FRAP/mTOR kinase regulate 4E-BP1. 4E-BP1 is phosphorylated in vivo on multiple residues and phosphorylation by FRAP/mTOR on Threonine 37 and Threonine 46 of human 4E-BP1 may prime it for sub-sequent phosphorylation at sites including Serine 65 and Threonine 70. The corresponding rat residues include Threonine 36, Threonine 45, Serine 64 and Threonine 69. In vitro, 4E-BP1 is also phosphorylated by ataxia telangiectasia (ATM) at human Serine 112 (rat Serine 111) in response to an increase in insulin levels.

Immunogen: Synthetic peptide.

Positive control: 293T cell lysates.

Subcellular location: Cytoplasm.

Database links: SwissProt: O60516 Human | Q13541 Human | Q13542 Human

Recommended Dilutions:

WB	1:100-1:1,000
IP	1-2 µg per 100-500 µg of total protein(1 ml of cell lysate)
IF	1:50-500

Storage Buffer: 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Storage Instruction: Store at +4°C

Purity: Protein A affinity purified.

Hangzhou Huaan Biotechnology Co., Ltd.

Orders:0086-571-88062880

Technical:0086-571-89986345

Service mail:support@huabio.cn

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Images

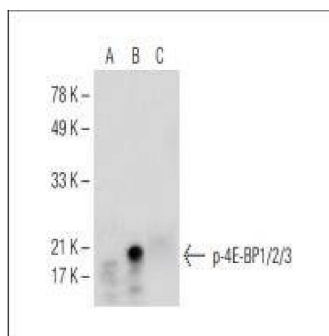


Fig1: Western blot analysis of 4E-BP1/2/3 phosphorylation in untreated (A), calyculin A treated (B) and calyculin A and lambda protein phosphatase treated (C) Jurkat whole cell lysates.

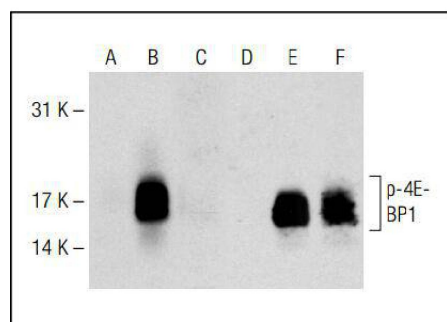


Fig2: Western blot analysis of 4E-BP1 phosphorylation in nontransfected (A,D), untreated human 4E-BP1 transfected (B,E) and lambda protein phosphatase treated human 4E-BP1 transfected (C,F) 293T whole cell lysates. Antibodies tested include p-4E-BP1/2/3 (A,B,C) and 4E-BP1 (D,E,F).

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. Yang, D.Q., et al. 2000. Participation of ATM in Insulin signalling through phosphorylation of eIF-4E-binding protein 1. *Nat. Cell Biol.* 2: 893-898.
2. Gingras, A.C., et al. 1999. Regulation of 4E-BP1 phosphorylation: a novel two-step mechanism. *Genes Dev.* 13: 1422-1437.
3. Gingras, A.C., et al. 1998. 4E-BP1, a repressor of mRNA translation, is phosphorylated and inactivated by the Akt (PKB) signaling pathway. *Genes Dev.* 12: 502-513.

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