4E-BP1/2/3 (Phospho-Thr 45) Antibody

Catalog No: #13321

Package Size: #13321-1 50ul #13321-2 100ul

Orders: order@signalwayantibody.com
Support: tech@signalwayantibody.com

Description

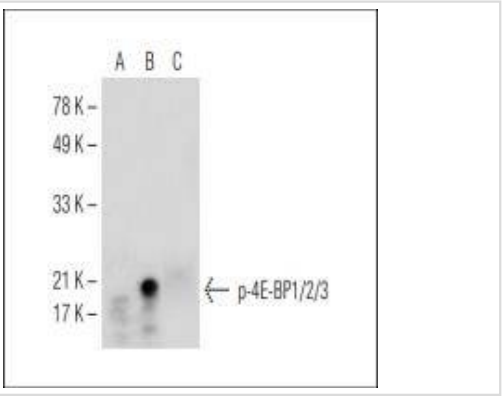
Product Name	4E-BP1/2/3 (Phospho-Thr 45) Antibody
Host Species	Mouse
Clone No.	3G2
Purification	ProA affinity purified
Applications	WB, IP, IF
Species Reactivity	Hu, Ms, Rt
Immunogen Description	peptide
Other Names	4E-BP1 antibody 4EBP1 antibody 4EBP1_HUMAN antibody BP 1 antibody eIF4E binding protein 1 antibody eIF4E-binding protein 1 antibody Eif4ebp1 antibody Eukaryotic translation initiation factor 4E-binding protein 1 antibody PHAS-I antibody PHASI antibody Phosphorylated heat- and acid-stable protein regulated by insulin 1 antibody
Calculated MW	21 kDa
Formulation	1*TBS (pH7.4), 1%BSA, 40%Glycerol. Preservative: 0.05% Sodium Azide.
Storage	Store at -20°C

Application Details

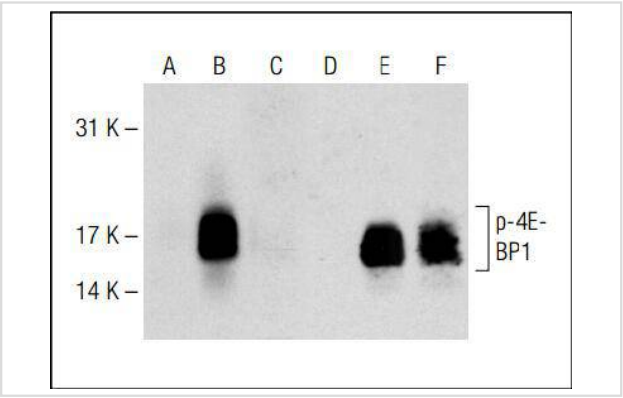
WB: 1:100-1:1,000

IP: 1-2 μg per 100-500 μg of total protein(1 ml of cell lysate)

Images



Westernblot analysis of 4E-BP1/2/3 phosphorylation inuntreated (A), calyculinA treated (B) and calyculin A and lambda protein phosphatase treated (C) Jurkat whole cell lysates.



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).

Background

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.

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.

Note: This product is for in vitro research use only and is not intended for use in humans or animals.