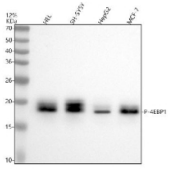
Phospho-4EBP1 (pThr46) Antibody / Early Translation Control Marker [clone 32E52] (FY12420)

Catalog No.	Formulation	Size
FY12420	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA	100 ul

Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	2-3 weeks
Species Reactivity	Human, Mouse
Format	Liquid
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	32E52
Purity	Affinity-chromatography
Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
UniProt	Q13541, Q13542, O60516
Applications	Western blot: 1:500-1:2000 Immunohistochemistry: 1:50-1:200
Limitations	This Phospho-4EBP1 (pThr46) Antibody / Early Translation Control Marker is available for research use only.



Phospho-4EBP1 Antibody Multi-Cell WB. Western blot analysis of human HEL, SH-SY5Y, HepG2, and MCF-7 cell lysates using phospho-4EBP1 antibody detecting 4EBP family proteins phosphorylated at Thr46, clone 32E52. A band is detected at approximately 18 kDa across all samples, consistent with the predicted molecular weight of 4EBP proteins. Detection across multiple cell lines reflects basal phosphorylation and early-stage regulation of translation control pathways.

Description

Phospho-eIF4EBP1 (pThr46) antibody detects eukaryotic translation initiation factor 4E binding protein 1 when phosphorylated at threonine 46. EIF4EBP1 is encoded by the EIF4EBP1 gene and is part of a small family of translational repressors that also includes EIF4EBP2 and EIF4EBP3. These proteins function as regulators of cap dependent translation by binding to eIF4E and preventing assembly of the translation initiation complex. Phosphorylation of EIF4EBP1 at Thr46 and other regulatory sites causes its release from eIF4E, thereby promoting translation initiation.

Phospho-eIF4EBP1 (pThr46) antibody is widely applied in studies of mTOR signaling, translation control, and cancer biology. The mTOR pathway is a central regulator of cell growth, proliferation, and metabolism, and EIF4EBP1 phosphorylation is one of its key downstream events. By specifically detecting EIF4EBP1 phosphorylated at Thr46, this antibody provides a reliable marker of pathway activation and translational regulation.

The antibody is suitable for western blotting, immunohistochemistry, and immunofluorescence. In western blot assays, Phospho-eIF4EBP1 (Thr46) antibody identifies phosphorylated protein bands distinct from non phosphorylated forms, allowing quantification of activation states. Immunohistochemistry provides tissue level mapping of phosphorylation patterns, while immunofluorescence reveals subcellular localization of activated EIF4EBP1. These applications make the antibody valuable for monitoring mTOR activity across experimental models.

EIF4EBP1 phosphorylation at Thr46 is conserved among family members, and antibodies raised against this site may also detect EIF4EBP2 at Thr46 and EIF4EBP3 at Thr32. This cross reactivity can be useful in capturing broader regulation of translation initiation but should be considered in experimental design. By applying Phospho-eIF4EBP1 (pThr46) antibody, researchers can evaluate translational control across multiple EIF4EBP proteins.

Dysregulation of EIF4EBP1 phosphorylation is common in cancers, where hyperactivation of mTOR signaling drives uncontrolled growth and survival. Detection of phospho EIF4EBP1 is frequently used as a biomarker of therapeutic response to mTOR inhibitors. Beyond oncology, mTOR EIF4EBP1 signaling regulates metabolism, neuronal plasticity, and immune responses, expanding the relevance of this antibody to diverse research fields.

Phospho-eIF4EBP1 (pThr46) antibody provided by NSJ Bioreagents delivers reliable specificity for phosphorylated EIF4EBP1, enabling accurate monitoring of mTOR activity and translational regulation in health and disease. This antibody is part of our full phospho antibody collection which can be explored for additional phosphorylation-specific targets and pathway markers.

Application Notes

Optimal dilution of the Phospho-4EBP1 (pThr46) Antibody / Early Translation Control Marker should be determined by the researcher.

Immunogen

A synthesized peptide derived from human Phospho-eIF4EBP1/2/3 (T46+T46+T32) was used as the immunogen for the Phospho-4EBP1 (pThr46) Antibody.

Storage

Store the Phospho-4EBP1 (pThr46) Antibody at -20oC.

Alternate Names

Phospho 4EBP1 antibody, 4EBP1 pThr46 antibody, 4EBP1 Thr46 antibody, EIF4EBP1 phospho antibody, EIF4EBP1 Thr46 antibody, eIF4E binding protein 1 phospho antibody, phosphorylated 4EBP1 antibody, early phospho 4EBP1 antibody, mTOR signaling 4EBP1 antibody, clone 32E52 antibody

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