Data Sheet (Cat.No.TMAY-01426)

TargetMol

Anti-Phospho-4E-BP1 (Thr37, 46) Antibody (7K153)

Product Details

Ig Type:	Rabbit IgG
Reactivity:	Human; Species predicted to react based on 100% sequence homology: Mouse, rat
Conjugation:	Unconjugated
Clone:	7K153
Purification:	Protein A

Applications

Verified Activity:	1. Western blot analysis of extracts from serum-starved HEK293, untreated (line A); treated with IGF1 (100ng/ml, 15min; +) (line B); treated with IGF1 and λ-phosphatase (line C) using Phospho-4E-BP1 (Thr37, 46) rabbit monoclonal Antibody at 1:5000 dilution. (Validation Experiment) 2. Western blot analysis of extracts from HEK293, untreated(line A) or treated with IGF1 (100ng/ml, 15min; +)(line B), using Phospho-4E-BP1 (Thr37, 46) rabbit monoclonal Antibody at 1:5000 dilution (upper) or Anti-4E-BP1 Antibody, Mouse Monoclonal at 1:5000 dilution (lower).
Application:	WB
Recommended	WB: 1:1000-1:10000

Properties

Stability & Storage:	Store at 2°C-8°C for 1 month. Store at -20°C or -80°C for 12 months. Avoid repeated freeze-thaw cycles. Preservative-Free.
Shipping:	Shipping with blue ice.

Antigen Details

Immunogen:	A synthetic peptide: residues around (Thr37, 46) of Human Phospho-4E-BP1
Antigen Species:	Human
Synonyms:	4E-BP1 (p-Thr37, 46);BP-1;PHAS-I;4EBP1;4E-BP1 (p-T37, 46);p-4E-BP1 (Thr37, 46);Phospho-4E-BP1 (T37, 46);4E-BP1;p-4E-BP1 (T37, 46)

Research Background

The translational suppressor eIF4E binding protein-1, 4E-BP1 functions as a key regulator in cellular growth, differentiation, apoptosis and survival. The Eif4ebp1 gene, encoding 4E-BP1, is a direct target of a transcription factor activating transcription factor-4 (ATF4), a master regulator of gene expression in stress responses. 4E-BP1 is characterized by its capacity to bind specifically to eIF4E and inhibit its interaction with eIF4G. Phosphorylation of 4E-BP1 regulates eIF4E availability, and therefore, cap-dependent translation, in cell stress. Binding of eIF4E to eIF4G is inhibited in a competitive manner by 4E-BP1. Phosphorylation of 4E-BP1 decreases the affinity of this protein for eIF4E, thus favouring the binding of eIF4G and enhancing translation. 4E-BP1 is important for beta-cell survival under endoplasmic reticulum (ER) stress. 4E-BP1 mediates the regulation of protein translation by hormones, growth factors and other stimuli that signal through the MAP kinase and mTORC1 pathways. Recently, 4E-BP1 was found to be a key factor, which converges several oncogenic signals, phosphorylates the molecules, and drives the downstream proliferative signals. Recent studies showed that high expression of phosphorylated 4E-BP-1 (p-4E-

BP1) is associated with poor prognosis, tumor progression, or nodal metastasis in different human cancers.

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