

Product datasheet for **AP20918PU-N**

EIF4EBP1 pThr45 Rabbit Polyclonal Antibody

Product data:

Product Type:	Primary Antibodies
Applications:	IHC
Recommended Dilution:	Immunohistochemistry on paraffin sections 1/50 - 1/200.
Reactivity:	Human, Mouse, Rat
Host:	Rabbit
Clonality:	Polyclonal
Specificity:	This antibody detects endogenous levels of 4E-BP1 protein only when phosphorylated at Thr45.
Formulation:	Phosphate buffered saline (PBS), pH 7.2 State: Aff - Purified State: Liquid purified Ig fraction Preservative: 0.05% sodium azide
Concentration:	1.0 mg/ml
Purification:	Affinity chromatography (> 95% (by SDS-PAGE)
Conjugation:	Unconjugated
Storage:	Store undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer. Avoid repeated freezing and thawing.
Stability:	Shelf life: one year from despatch.
Predicted Protein Size:	~ 15 to 20 kDa
Gene Name:	eukaryotic translation initiation factor 4E binding protein 1
Database Link:	Entrez Gene 13685 Mouse Entrez Gene 116636 Rat Entrez Gene 1978 Human Q13541



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Background:

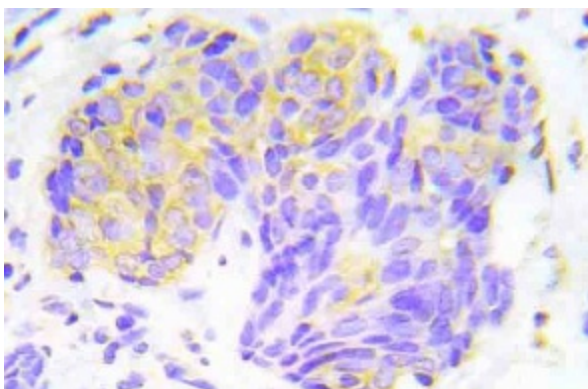
The multisubunit eukaryotic translation initiation factor (eIF) 4F recruits 40S ribosomal subunits to the 5' end of mRNA. The eIF4F subunit eIF4E interacts directly with the mRNA 5' cap structure. Assembly of the eIF4F complex is inhibited by a family of repressor polypeptides, the eIF4E-binding proteins (4E-BPs). 4E-BP1 (also known as PHAS-1) normally binds eIF4E, inhibiting cap-dependent translation. Hyperphosphorylation 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 subsequent 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.

Synonyms:

PHAS-I, PHAS-1, PHAS1

Protein Pathways:

Acute myeloid leukemia, ErbB signaling pathway, Insulin signaling pathway, mTOR signaling pathway

Product images:

Immunohistochemistry (IHC) analyzes of p-4E-BP1 antibody (Cat.-No.: AP20918PU-N) in paraffin-embedded human lung adenocarcinoma tissue.