Anti-4E-BP1 antibody

Description	Rabbit polyclonal to 4E-BP1.

Model	STJ91387
Host	Rabbit
Reactivity	Human, Mouse, Rat
Applications	ELISA, IF, IHC
Immunogen	Synthesized peptide derived from human 4E-BP1 around the non-phosphorylation site of T36.
Immunogen Region	10-90 aa
Gene ID	1978
Gene Symbol	EIF4EBP1
Dilution range	IHC 1:100-1:300IF 1:200-1:1000ELISA 1:5000
Specificity	4E-BP1 Polyclonal Antibody detects endogenous levels of 4E-BP1 protein.
Purification	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
Note	For Research Use Only (RUO).
Protein Name	Eukaryotic translation initiation factor 4E-binding protein 1 4E-BP1 eIF4E-binding protein 1 Phosphorylated heat- and acid-stable protein regulated by insulin 1 PHAS-I
Molecular Weight	12/35 kDa
Clonality	Polyclonal

Conjugation	Unconjugated
Isotype	IgG
Formulation	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Concentration	1 mg/ml
Storage Instruction	Store at -20°C, and avoid repeat freeze-thaw cycles.
Database Links	HGNC:3288OMIM:602223
Alternative Names	Eukaryotic translation initiation factor 4E-binding protein 1 4E-BP1 eIF4E-binding protein 1 Phosphorylated heat- and acid-stable protein regulated by insulin 1 PHAS-I
Function	Repressor of translation initiation that regulates EIF4E activity by preventing its assembly into the eIF4F complex: hypophosphorylated form competes with EIF4G1/EIF4G3 and strongly binds to EIF4E, leading to repress translation. In contrast, hyperphosphorylated form dissociates from EIF4E, allowing interaction between EIF4G1/EIF4G3 and EIF4E, leading to initiation of translation. Mediates the regulation of protein translation by hormones, growth factors and other stimuli that signal through the MAP kinase and mTORC1 pathways.
Sequence and Domain Family	The TOS motif mediates interaction with RPTOR, leading to promote phosphorylation by mTORC1 complex.
Post-translational Modifications	Phosphorylated on serine and threonine residues in response to insulin, EGF and PDGF. Phosphorylation at Thr-37, Thr-46, Ser-65 and Thr-70, corresponding to the hyperphosphorylated form, is regulated by mTORC1 and abolishes binding to EIF4E. Ubiquitinated: when eIF4E levels are low, hypophosphorylated form is ubiquitinated by the BCR(KLHL25) complex, leading to its degradation and serving as a homeostatic mechanism to maintain translation and prevent eIF4E inhibition when eIF4E levels are low. Not ubiquitinated when hyperphosphorylated (at Thr-37, Thr-46, Ser-65 and Thr-70) or associated with eIF4E.