10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

4E-BP1 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1082a

Product Information

Application	WB, IHC, E
Primary Accession	Q13541
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	4B6G10
Isotype	IgG1
Calculated MW	12580
Description	4E-BP1(eukaryotic translation Initiation Factor 4E Binding Protein 1),also called ELF4EBP1/BP-1/PHAS-I ,which is located on chromosome 8p12, with 118-amino acid protein (about 13kDa). Binding of eIF4EBP1 to eIF4E is reversible and is dependent on the phosphorylation status of eIF4EBP1. Non phosphorylated eIF4EBP1 will bind strongly to eIF4E while(24kDa), the phosphorylated form will not. Akt, TOR, MAP kinase, S6 kinase, and Cdc2 are known kinases capable of inactivating eIF4EBP1 binding to eIF4E by phosphorylating either threonines 35, 45, 69 or serine 64. Although, not all phosphorylation events equally block the eIF4EBP1-eIF4E interaction.
Immunogen	Purified recombinant fragment of 4E-BP1 expressed in E. Coli.
Formulation	Ascitic fluid containing 0.03% sodium azide.

Additional Information

Gene ID	1978
Other 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, EIF4EBP1
Dilution	WB~~1/500 - 1/2000 IHC~~1/200 - 1/1000 E~~N/A
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	4E-BP1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	EIF4EBP1
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.
Cellular Location	Cytoplasm. Nucleus. Note=Localization to the nucleus is unaffected by phosphorylation status. {ECO:0000250|UniProtKB:Q60876}

References

1. Pause, A. et al. 1994.Nature. 371:762–767. 2. Fadden, P. et al. 1997. J. Biol. Chem. 272:10240–10247.

Images

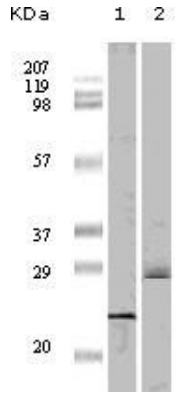

Figure 1: Western blot analysis using 4E-BP1 mouse mAb against truncated 4E-BP1 recombinant protein(1)and A431 cell lysate (2).

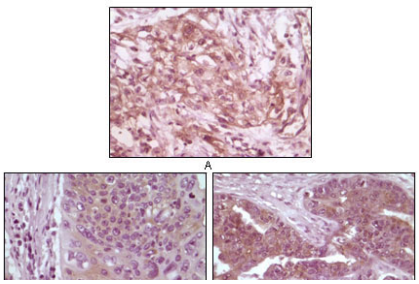

Figure 2: Immunohistochemical analysis of paraffin-embedded human pancreas carcinoma (A), esophagus carcinoma tissue (B) and ovary tumor tissue (C), showing cytoplasmic and membrane localization using 4E-BP1 mouse mAb with DAB staining.