10320 Camino Santa Fe, Suite G
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4E-BP1 Antibody
Purified Mouse Monoclonal Antibody
Catalog # AO1083a

Specification

4E-BP1 Antibody - Product Information

Application	**WB, IHC, FC, IF**
Primary Accession	Q13541
Reactivity	**Human**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**IgG1**

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 4EBP1 expressed in E. Coli.

Formulation
Purified antibody in PBS containing 0.03% sodium azide.

4E-BP1 Antibody - 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
FC~~1:200~~400
IF~~1:200~1000.

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.

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4E-BP1 Antibody - 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}

4E-BP1 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

4E-BP1 Antibody - Images

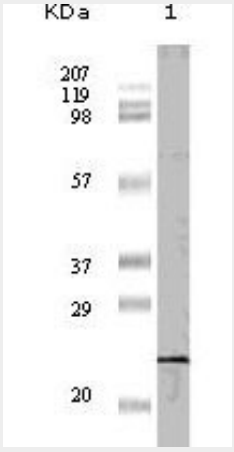


Figure 1: Western blot analysis using 4E-BP1 mouse mAb against truncated 4E-BP1 recombinant protein (1).

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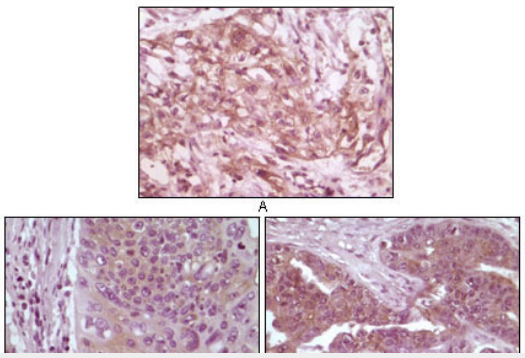


Figure 2: Immunohistochemical analysis of paraffin-embedded human pancreas carcinoma (A), esophagus carcinoma tissue (B) and ovary tumor tissue, showing cytoplasmic and membrane localization using 4E-BP1 mouse mAb with DAB staining.

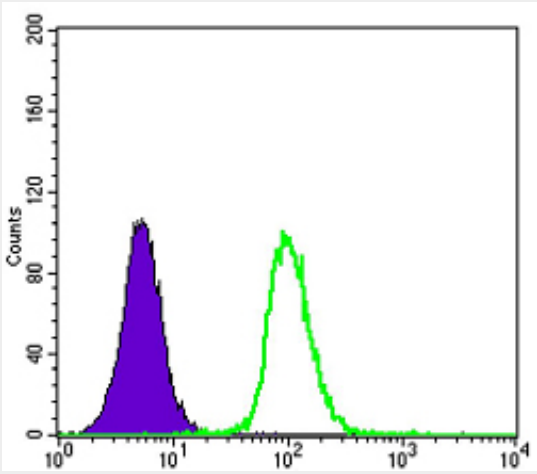


Figure 6: Flow cytometric analysis of K562 cells using GSTP1 mouse mAb (green) and negative control (purple).

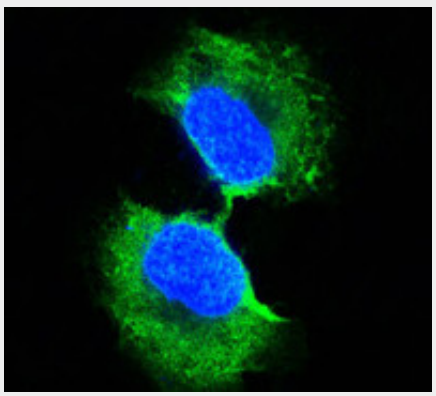


Figure 3: Confocal immunofluorescence analysis of PC-3 cells using anti-GSTP1 mAb (green). Blue: DRAQ5 fluorescent DNA dye.

4E-BP1 Antibody - References

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