

# 4E-BP1 (P-1): sc-9977

## BACKGROUND

4E-BP1 Antibody (P-1) is a high quality monoclonal 4E-BP1 antibody (also designated 4EBP1 antibody, EIF4EBP1 antibody, or eukaryotic translation initiation factor 4E binding protein 1 antibody) suitable for the detection of the 4E-BP1 protein of mouse, rat, human and porcine origin. 4E-BP1 Antibody (P-1) is available as both the non-conjugated anti-4E-BP1 antibody form, as well as multiple conjugated forms of anti-4E-BP1 antibody, including agarose, HRP, PE, FITC and multiple Alexa Fluor<sup>®</sup> conjugates. The translation of proteins from eukaryotic mRNA is initiated by the multisubunit complex eIF-4F, which associates with the mRNA 5' cap structure. eIF-4E, a component of eIF-4F, is responsible for binding to the 5' cap structure and for the assembly of the eIF-4F complex. The regulatory protein 4E-BP1, also referred to as PHAS-I, inhibits eIF-4E function. Phosphorylation of 4E-BP1 by S6 kinase p70, MAP kinases or PKCs causes the disassociation of 4E-BP1 from eIF-4E, promoting translation. A protein that is functionally related to 4E-BP1, designated 4E-BP2, also associates with eIF-4E.

## CHROMOSOMAL LOCATION

Genetic locus: EIF4EBP1 (human) mapping to 8p11.23; Eif4ebp1 (mouse) mapping to 8 A2.

## SOURCE

4E-BP1 (P-1) is a mouse monoclonal antibody raised against full length 4E-BP1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

4E-BP1 (P-1) is available conjugated to agarose (sc-9977 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-9977 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-9977 PE), fluorescein (sc-9977 FITC), Alexa Fluor<sup>®</sup> 488 (sc-9977 AF488), Alexa Fluor<sup>®</sup> 546 (sc-9977 AF546), Alexa Fluor<sup>®</sup> 594 (sc-9977 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-9977 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-9977 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-9977 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

4E-BP1 (P-1) is recommended for detection of 4E-BP1 of mouse, rat, human and porcine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

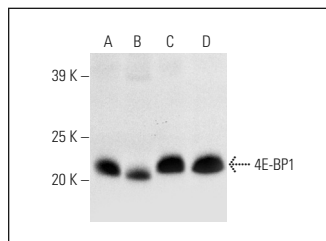
Suitable for use as control antibody for 4E-BP1 siRNA (h): sc-29594, 4E-BP1 siRNA (m): sc-29595, 4E-BP1 shRNA Plasmid (h): sc-29594-SH, 4E-BP1 shRNA Plasmid (m): sc-29595-SH, 4E-BP1 shRNA (h) Lentiviral Particles: sc-29594-V and 4E-BP1 shRNA (m) Lentiviral Particles: sc-29595-V.

Molecular Weight of 4E-BP1: 21 kDa.

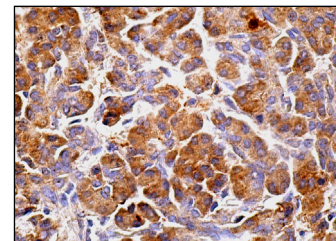
## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## DATA



4E-BP1 (P-1): sc-9977. Western blot analysis of 4E-BP1 expression in A-431 (A), K-562 (B), NIH/3T3 (C) and KNRK (D) whole cell lysates.



4E-BP1 (P-1): sc-9977. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of glandular cells.

## SELECT PRODUCT CITATIONS

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- Kodali, D., et al. 2011. Expression and phosphorylation of eukaryotic translation initiation factor 4E binding protein 1 in B-cell lymphomas and reactive lymphoid tissues. *Arch. Pathol. Lab. Med.* 135: 365-371.
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- Liu, P., et al. 2019. Wound healing potential of spirulina protein on CCD-986sk cells. *Mar. Drugs* 17: 130.
- Kim, H.W., et al. 2020. Ascofuranone inhibits epidermal growth factor-induced cell migration by blocking epithelial-mesenchymal transition in lung cancer cells. *Eur. J. Pharmacol.* 880: 173199.
- Hussein, A.M., et al. 2020. Metabolic control over mTOR-dependent diapause-like state. *Dev. Cell* 52: 236-250.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

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