

4E-BP1 (h): 293T Lysate: sc-116590

BACKGROUND

The translation of proteins from eukaryotic mRNA is initiated by the multi-subunit 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.

REFERENCES

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2. Rau, M., et al. 1996. A reevaluation of the cap-binding protein, eIF4E, as a rate-limiting factor for initiation of translation in reticulocyte lysate. *J. Biol. Chem.* 271: 8983-8990.
3. Whalen, S.G., et al. 1996. Phosphorylation of eIF-4E on Serine 209 by protein kinase C is inhibited by the translational repressors, 4E-binding proteins. *J. Biol. Chem.* 271: 11831-11837.
4. Diggle, T.A., et al. 1996. Both Rapamycin-sensitive and -insensitive pathways are involved in the phosphorylation of the initiation factor-4E-binding protein (4E-BP1) in response to Insulin in rat epididymal fat-cells. *Biochem. J.* 316: 447-453.
5. Beretta, L., et al. 1996. Rapamycin blocks the phosphorylation of 4E-BP1 and inhibits cap-dependent initiation of translation. *EMBO J.* 15: 658-664.
6. Mendez, R., et al. 1996. Stimulation of protein synthesis, eukaryotic translation initiation factor 4E phosphorylation, and PHAS-I phosphorylation by Insulin requires Insulin receptor substrate 1 and phosphatidylinositol 3-kinase. *Mol. Cell. Biol.* 16: 2857-2864.
7. von Manteuffel, S.R., et al. 1996. 4E-BP1 phosphorylation is mediated by the FRAP-p70s6k pathway and is independent of mitogen-activated protein kinase. *Proc. Natl. Acad. Sci. USA* 93: 4076-4080.

CHROMOSOMAL LOCATION

Genetic locus: EIF4EBP1 (human) mapping to 8p11.23.

PRODUCT

4E-BP1 (h): 293T Lysate represents a lysate of human 4E-BP1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

4E-BP1 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive 4E-BP1 antibodies. Recommended use: 10-20 µl per lane.

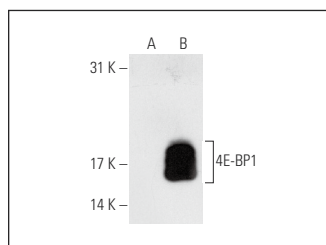
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

4E-BP1 (P-1): sc-9977 is recommended as a positive control antibody for Western Blot analysis of enhanced human 4E-BP1 expression in 4E-BP1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

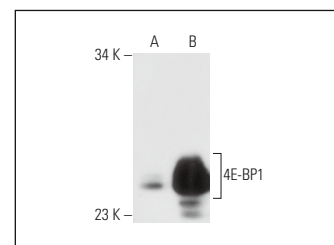
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



4E-BP1 (P-1): sc-9977. Western blot analysis of 4E-BP1 expression in non-transfected: sc-117752 (A) and human 4E-BP1 transfected: sc-116590 (B) 293T whole cell lysates.



4E-BP1 (11G12C11): sc-81149. Western blot analysis of 4E-BP1 expression in non-transfected: sc-117752 (A) and human 4E-BP1 transfected: sc-116590 (B) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.