

4E-T (h): 293T Lysate: sc-127869

BACKGROUND

The eukaryotic initiation complex eIF4F exists *in vitro* as a trimeric complex of eIF4G, eIF4E, and eIF4A. Together, the complex allows ribosome binding to mRNA by inducing the unwinding of mRNA secondary structures. eIF4E binds to the mRNA "cap" during an early step in the initiation of protein synthesis. eIF4E-transporter (4E-T) is a nucleocytoplasmic protein that facilitates the nuclear import of eIF4E by regulating the formation of a complex between the eIF4E and the importin $\alpha\beta$ pathway. This interaction between 4E-T and eIF4E occurs through a conserved binding site. In addition to this binding site for eIF4E, 4E-T contains a bipartite nuclear localization signal and two leucine-rich nuclear export signals. The gene encoding for 4E-T maps to human chromosome 22q12.2.

REFERENCES

1. Rychlik, W., et al. 1987. Amino acid sequence of the mRNA capbinding protein from human tissues. *Proc. Natl. Acad. Sci. USA* 84: 945-949.
2. Jaramillo, M., et al. 1991. RNA unwinding in translation: assembly of helicase complex intermediates comprising eukaryotic initiation factors eIF4F and eIF4B. *Mol. Cell. Biol.* 11: 5992-5997.
3. Scheper, G.C., et al. 1992. Eukaryotic initiation factors-4E and -4F stimulate 5' cap-dependent as well as internal initiation of protein synthesis. *J. Biol. Chem.* 267: 7269-7274.
4. Merrick, W.C. 1994. Eukaryotic protein synthesis: an *in vitro* analysis. *Biochimie* 76: 822-830.
5. Dostie, J., et al. 2000. A novel shuttling protein, 4E-T, mediates the nuclear import of the mRNA 5' cap-binding protein, eIF4E. *EMBO J.* 19: 3142-3156.
6. LocusLink Report (LocusID: 56478). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

Genetic locus: EIF4ENIF1 (human) mapping to 22q12.2.

PRODUCT

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

APPLICATIONS

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

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

4E-T (E-4): sc-514810 is recommended as a positive control antibody for Western Blot analysis of enhanced human 4E-T expression in 4E-T transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

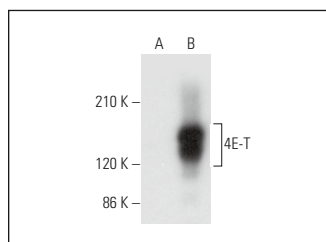
STORAGE

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.

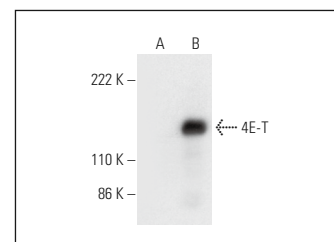
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-T (E-4): sc-514810. Western blot analysis of 4E-T expression in non-transfected: sc-117752 (A) and human 4E-T transfected: sc-127869 (B) 293T whole cell lysates.



4E-T (B-3): sc-393788. Western blot analysis of 4E-T expression in non-transfected: sc-117752 (A) and human 4E-T transfected: sc-127869 (B) 293T whole cell lysates.

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.