

4E-T (N-18): sc-13453

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 cap-binding 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 eIF-4F and eIF-4B. *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.

SOURCE

4E-T (N-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of 4E-T of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-13453 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

RESEARCH USE

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

APPLICATIONS

4E-T (N-18) is recommended for detection of 4E-T of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

4E-T (N-18) is also recommended for detection of 4E-T in additional species, including canine.

Suitable for use as control antibody for 4E-T siRNA (h): sc-40523, 4E-T shRNA Plasmid (h): sc-40523-SH and 4E-T shRNA (h) Lentiviral Particles: sc-40523-V.

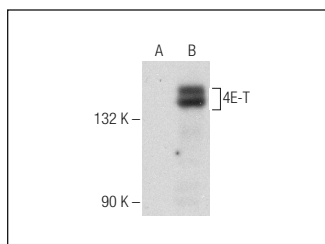
Molecular Weight of 4E-T: 140 kDa.

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

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



4E-T (N-18): sc-13453. 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.

SELECT PRODUCT CITATIONS

1. Kedersha, N., et al. 2007. Mammalian stress granules and processing bodies. *Meth. Enzymol.* 431: 61-81.

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Try **4E-T (B-3): sc-393788** or **4E-T (E-4): sc-514810**, our highly recommended monoclonal alternatives to 4E-T (N-18).