SANTA CRUZ BIOTECHNOLOGY, INC.

4E-T (E-4): sc-514810

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 faciliates 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 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 (E-4) is a mouse monoclonal antibody raised against amino acids 686-985 mapping at the C-terminus of 4E-T of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

PROTOCOLS

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

APPLICATIONS

4E-T (E-4) is recommended for detection of 4E-T of human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

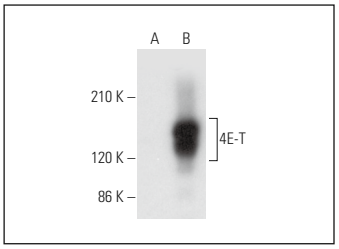
Molecular Weight of 4E-T: 140 kDa.

Positive Controls: 4E-T (h): 293T Lysate: sc-127869 or A-431 whole cell lysate: sc-2201.

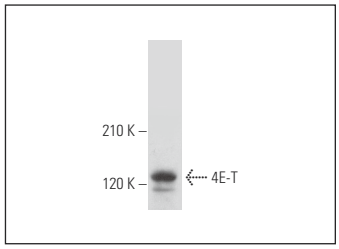
RECOMMENDED SUPPORT REAGENTS

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

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 (E-4): sc-514810. Western blot analysis of 4E-T expression in A-431 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Law, L.M.J., et al. 2019. ZAP's stress granule localization is correlated with its antiviral activity and induced by virus replication. PLoS Pathog. 15: e1007798.

RESEARCH USE

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