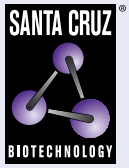
SANTA CRUZ BIOTECHNOLOGY, INC.

4E-T (2314C3a): sc-81175



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 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 (2314C3a) is a mouse monoclonal antibody raised against a recombinant protein corresponding to a region near the N-terminus of 4E-T of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 1.0% stabilizer protein.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

PROTOCOLS

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

APPLICATIONS

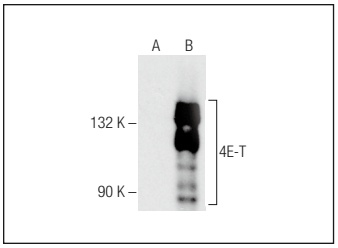
4E-T (2314C3a) is recommended for detection of 4E-T of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

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.

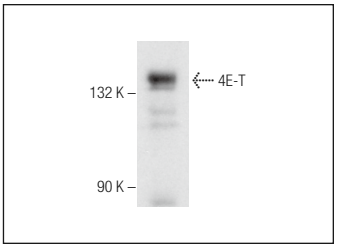
Molecular Weight of 4E-T: 140 kDa.

Positive Controls: THP-1 cell lysate: sc-2238 or 4E-T (h): 293T Lysate: sc-127869.

DATA



4E-T (2314C3a): sc-81175. 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 (2314C3a): sc-81175. Western blot analysis of 4E-T expression in THP-1 whole cell lysate.

RESEARCH USE

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