

eIF4AIII (T-19): sc-51487

BACKGROUND

The eukaryotic translation factor 4A (eIF4A) is a member of DEA(D/H)-box RNA helicase family that couples ATP hydrolysis to RNA binding and duplex separation. eIF4A participates in the initiation of translation by unwinding secondary structure in the 5'-untranslated region of mRNAs and facilitating scanning by the 40 S ribosomal subunit for the initiation codon. eIF4AIII is a component of the exon junction complex (EJC) that assembles near exon-exon junctions of mRNAs as a result of splicing. eIF4AIII, but not eIF4AI or eIF4AII, preferentially associates with spliced mRNA. eIF4AIII is found in the nucleus whereas eIF4AI and eIF4AII are found in the cytoplasm.

REFERENCES

1. Lomakin, I.B., et al. 2000. Physical association of eukaryotic initiation factor 4G (eIF4G) with eIF4A strongly enhances binding of eIF4G to the internal ribosomal entry site of encephalomyocarditis virus and is required for internal initiation of translation. *Mol. Cell. Biol.* 20: 6019-6029.
2. Dominguez, D., et al. 2001. Structural and functional similarities between the central eukaryotic initiation factor (eIF4A)-binding domain of mammalian eIF4G and the eIF4A-binding domain of yeast eIF4G. *Biochem. J.* 355: 223-230.
3. Rogers, G.W., et al. 2001. Further characterization of the helicase activity of eIF4A. Substrate specificity. *J. Biol. Chem.* 276: 12598-12608.
4. Li, W., et al. 2001. Eukaryotic initiation factors 4A (eIF4A) and 4G (eIF4G) mutually interact in a 1:1 ratio *in vivo*. *J. Biol. Chem.* 276: 29111-29115.
5. Rogers, G.W., et al. 2001. Modulation of the helicase activity of eIF4A by eIF4B, eIF4H, and eIF4F. *J. Biol. Chem.* 276: 30914-30922.
6. Montero-Lomeli, M., et al. 2002. The initiation factor eIF4A is involved in the response to lithium stress in *Saccharomyces cerevisiae*. *J. Biol. Chem.* 277: 21542-21548.
7. Goke, A., et al. 2002. DUG is a novel homologue of translation initiation factor 4G that binds eIF4A. *Biochem. Biophys. Res. Commun.* 297: 78-82.
8. Chan, C.C., et al. 2004. eIF4A3 is a novel component of the exon junction complex. *RNA* 10: 200-209.
9. Korneeva, N.L., et al. 2005. Interaction between the NH₂-terminal domain of eIF4A and the central domain of eIF4G modulates RNA-stimulated ATPase activity. *J. Biol. Chem.* 280: 1872-1881.

CHROMOSOMAL LOCATION

Genetic locus: EIF4A3 (human) mapping to 17q25.3; Ddx48 (mouse) mapping to 11 E2.

SOURCE

eIF4AIII (T-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of eIF4AIII of human origin.

STORAGE

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

PRODUCT

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

Blocking peptide available for competition studies, sc-51487 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

eIF4AIII (T-19) is recommended for detection of eIF4AIII of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

eIF4AIII (T-19) is also recommended for detection of eIF4AIII in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for eIF4AIII siRNA (h): sc-44528, eIF4AIII siRNA (m): sc-77395, eIF4AIII shRNA Plasmid (h): sc-44528-SH, eIF4AIII shRNA Plasmid (m): sc-77395-SH, eIF4AIII shRNA (h) Lentiviral Particles: sc-44528-V and eIF4AIII shRNA (m) Lentiviral Particles: sc-77395-V.

Molecular Weight of eIF4AIII: 47 kDa.

Positive Controls: HeLa nuclear extract: sc-2120 or HeLa whole cell lysate: sc-2200.

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) 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.

RESEARCH USE

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

PROTOCOLS

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



Try **eIF4AIII (B-2): sc-365549** or **eIF4AIII (3F1): sc-33632**, our highly recommended monoclonal alternatives to eIF4AIII (T-19).