

eIF4AII (h2): 293T Lysate: sc-173528

BACKGROUND

Translation initiation in eukaryotes necessitates the assembly of an 80S ribosomal complex. Eukaryotic initiation factors (eIFs) are utilized in a sequence of reactions that leads to 80S ribosomal assembly and initiation of translation. Mammalian eukaryotic translation initiation factor 4F (eIF4F) is a protein complex that contains eIF4A, eIF4E and eIF4G, binds mRNA at a 5'-cap motif and recruits the 43S ribosomal preinitiation complex to the eligible transcript. Along with eIF4B, the eIF4F complex mediates the unwinding of mRNA secondary structure to facilitate ribosome association. eIF4E specifically interacts with the 5'-cap, eIF4A(I,II) are bidirectional RNA helicases, and eIF4G(I,II) are scaffolding proteins which coordinate eIF4E, eIF4A, eIF3 and the 40S ribosome. Human eIF4AI (eIF4A, DDX2A) is a 406 amino acid protein that is 92.7% homologous to mouse eIF4AI. The promoter region of human eIF4A1 contains TATA and CAAT motifs and consensus binding sites to Sp1 and AP2.

REFERENCES

1. Rozen, F., et al. 1990. Bidirectional RNA helicase activity of eucaryotic translation initiation factors 4A and 4F. *Mol. Cell. Biol.* 10: 1134-1144.
2. Pain, V.M. 1996. Initiation of protein synthesis in eukaryotic cells. *Eur. J. Biochem.* 236: 747-751.
3. Kukimoto, I., et al. 1997. Characterization of the cloned promoter of the human initiation factor 4AI gene. *Biochem. Biophys. Res. Commun.* 233: 844-847.
4. Imataka, H., et al. 1998. A newly identified N-terminal amino acid sequence of human eIF4G binds poly(A)-binding protein and functions in poly(A)-dependent translation. *EMBO J.* 17: 7480-7489.
5. Gradi, A., et al. 1998. A novel functional human eukaryotic translation initiation factor 4G. *Mol. Cell. Biol.* 18: 334-342.
6. Online Mendelian Inheritance in Man, OMIM™. 1998. Johns Hopkins University, Baltimore, MD. MIM Number: 602641. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
7. Gingras, A.C., et al. 1999. eIF4 initiation factors: effectors of mRNA recruitment to ribosomes and regulators of translation. *Annu. Rev. Biochem.* 68: 913-963.
8. Asano, K., et al. 2000. A multifactor complex of eukaryotic initiation factors, eIF1, eIF2, eIF3, eIF5 and initiator tRNA (Met) is an important translation initiation intermediate *in vivo*. *Genes Dev.* 14: 2534-2546.

CHROMOSOMAL LOCATION

Genetic locus: EIF4A2 (human) mapping to 3q27.3.

PRODUCT

eIF4AII (h2): 293T Lysate represents a lysate of human eIF4AII transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

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.

APPLICATIONS

eIF4AII (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive eIF4AII antibodies. Recommended use: 10-20 µl per lane.

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

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.