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# elf3 $\alpha$ (m): 293T Lysate: sc-126778

## BACKGROUND

The initiation of protein synthesis in eukaryotic cells is regulated by interactions between protein initiation factors and RNA molecules. Eukaryotic initiation factors (eIFs) are utilized in a sequence of reactions that lead to 80S ribosomal assembly and, ultimately, translation. The eukaryotic initiation factor-3 (elf3) scaffolding structure is the largest of the eIF complexes and includes elf3 $\alpha$ , elf3 $\beta$ , elf3 $\delta$ , elf3 $\gamma$ , elf3 $\eta$ , elf3 $\epsilon$ , elf3 $\theta$  and elf3 $\zeta$ , all of which function to control the assembly of the 40S ribosomal subunit. Association of elf3 proteins with the 40S ribosomal subunit stabilizes elf2-GTP-Met-tRNA<sup>iMet</sup> complex association and mRNA binding, and promotes dissociation of 80S ribosomes into 40S and 60S subunits, thereby promoting the assembly of the pre-initiation complex. Overexpression of elf3 proteins is common in several cancers, suggesting a role for elf3 proteins in tumorigenesis.

## REFERENCES

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6. Masutani, M., Sonenberg, N., Yokoyama, S. and Imataka, H. 2007. Reconstitution reveals the functional core of mammalian elf3. *EMBO J.* 26: 3373-3383.
7. Zhang, L., Pan, X. and Hershey, J.W. 2007. Individual overexpression of five subunits of human translation initiation factor elf3 promotes malignant transformation of immortal fibroblast cells. *J. Biol. Chem.* 282: 5790-5800.
8. Sato, H., Masuda, M., Kanai, M., Tsukiyama-Kohara, K., Yoneda, M. and Kai, C. 2007. Measles virus N protein inhibits host translation by binding to elf3-p40. *J. Virol.* 81: 11569-11576.
9. Zhang, L., Smit-McBride, Z., Pan, X., Rheinhardt, J. and Hershey, J.W. 2008. An oncogenic role for the phosphorylated  $\eta$ -subunit of human translation initiation factor elf3. *J. Biol. Chem.* 283: 24047-24060.

## 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.

## CHROMOSOMAL LOCATION

Genetic locus: Eif3j (mouse) mapping to 2 E5.

## PRODUCT

elf3 $\alpha$  (m): 293T Lysate represents a lysate of mouse elf3 $\alpha$  transfected 293T cells and is provided as 100  $\mu$ g protein in 200  $\mu$ l SDS-PAGE buffer.

## APPLICATIONS

elf3 $\alpha$  (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive elf3 $\alpha$  antibodies. Recommended use: 10-20  $\mu$ l 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](http://www.scbt.com) for detailed protocols and support products.