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# eIF3 $\eta$ (m): 293T Lysate: sc-119982

## 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 (eIF3) scaffolding structure is the largest of the eIF complexes and includes eIF3 $\alpha$ , eIF3 $\beta$ , eIF3 $\gamma$ , eIF3 $\delta$ , eIF3 $\epsilon$ , eIF3 $\omega$ , eIF3 $\eta$  and eIF3 $\theta$ , all of which function to control the assembly of the 40S ribosomal subunit. Association of eIF3 proteins with the 40S ribosomal subunit stabilizes eIF2-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 eIF3 proteins is common in several cancers, suggesting a role for eIF3 proteins in tumorigenesis.

## REFERENCES

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2. Peterson, T.R. and Sabatini, D.M. 2005. eIF3: a connectOR of S6K1 to the translation preinitiation complex. *Mol. Cell* 20: 655-657.
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6. Masutani, M., Sonenberg, N., Yokoyama, S. and Imataka, H. 2007. Reconstitution reveals the functional core of mammalian eIF3. *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 eIF3 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 eIF3-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 eIF3. *J. Biol. Chem.* 283: 24047-24060.

## CHROMOSOMAL LOCATION

Genetic locus: Eif3b (mouse) mapping to 5 G2.

## RESEARCH USE

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

## PRODUCT

eIF3 $\eta$  (m): 293T Lysate represents a lysate of mouse eIF3 $\eta$  transfected 293T cells and is provided as 100  $\mu$ g protein in 200  $\mu$ l SDS-PAGE buffer.

## APPLICATIONS

eIF3 $\eta$  (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive eIF3 $\eta$  antibodies. Recommended use: 10-20  $\mu$ l per lane.

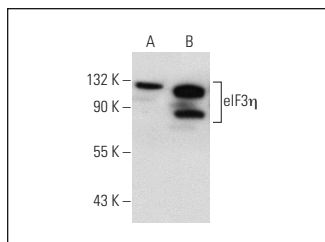
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

eIF3 $\eta$  (C-5): sc-137214 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse eIF3 $\eta$  expression in eIF3 $\eta$  transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

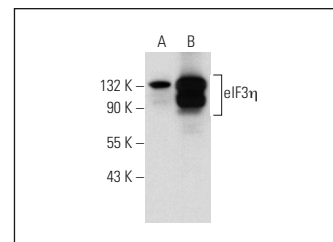
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>TM</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

## DATA



eIF3 $\eta$  (C-5): sc-137214. Western blot analysis of eIF3 $\eta$  expression in non-transfected: sc-117752 (A) and mouse eIF3 $\eta$  transfected: sc-119982 (B) 293T whole cell lysates.



eIF3 $\eta$  (D-9): sc-137215. Western blot analysis of eIF3 $\eta$  expression in non-transfected: sc-117752 (A) and mouse eIF3 $\eta$  transfected: sc-119982 (B) 293T whole cell lysates.

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.