

eIF3 ζ (H-300): sc-28856

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 α , eIF3 β , eIF3 γ , eIF3 δ , eIF3 ϵ , eIF3 ζ , eIF3 η and eIF3 θ , 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^{iMet} 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

1. Valasek, L., et al. 2004. Interactions of eukaryotic translation initiation factor 3 (eIF3) subunit NIP1/c with eIF1 and eIF5 promote preinitiation complex assembly and regulate start codon selection. *Mol. Cell. Biol.* 24: 9437-9455.
2. Peterson, T.R. and Sabatini, D.M. 2005. eIF3: a connectOR of S6K1 to the translation preinitiation complex. *Mol. Cell* 20: 655-657.
3. Dong, Z. and Zhang, J.T. 2006. Initiation factor eIF3 and regulation of mRNA translation, cell growth, and cancer. *Crit. Rev. Oncol. Hematol.* 59: 169-180.
4. LeFebvre, A.K., et al. 2006. Translation initiation factor eIF4G-1 binds to eIF3 through the eIF3 ϵ subunit. *J. Biol. Chem.* 281: 22917-22932.
5. Hinnebusch, A.G. 2006. eIF3: a versatile scaffold for translation initiation complexes. *Trends Biochem. Sci.* 31: 553-562.
6. Masutani, M., et al. 2007. Reconstitution reveals the functional core of mammalian eIF3. *EMBO J.* 26: 3373-3383.
7. Zhang, L., et al. 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., et al. 2007. Measles virus N protein inhibits host translation by binding to eIF3-p40. *J. Virol.* 81: 11569-11576.
9. Zhang, L., et al. 2008. An oncogenic role for the phosphorylated h-subunit of human translation initiation factor eIF3. *J. Biol. Chem.* 283: 24047-24060.

CHROMOSOMAL LOCATION

Genetic locus: EIF3S7 (human) mapping to 22q13.1; Eif3s7 (mouse) mapping to 15 E1.

SOURCE

eIF3 ζ (H-300) is a rabbit polyclonal antibody raised against amino acids 1-300 mapping at the N-terminus of eIF3 ζ of human origin.

RESEARCH USE

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

PRODUCT

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

APPLICATIONS

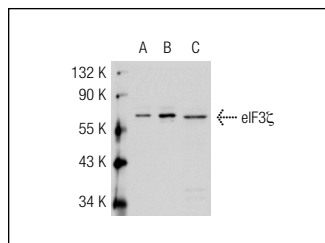
eIF3 ζ (H-300) is recommended for detection of eIF3 ζ of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

eIF3 ζ (H-300) is also recommended for detection of eIF3 ζ in additional species, including equine, canine, bovine and porcine.

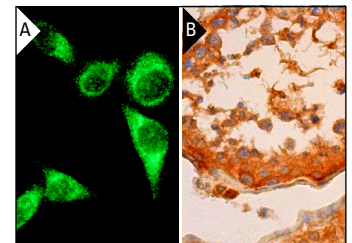
Suitable for use as control antibody for eIF3 ζ siRNA (h): sc-40552, eIF3 ζ siRNA (m): sc-40553, eIF3 ζ shRNA Plasmid (h): sc-40552-SH, eIF3 ζ shRNA Plasmid (m): sc-40553-SH, eIF3 ζ shRNA (h) Lentiviral Particles: sc-40552-V and eIF3 ζ shRNA (m) Lentiviral Particles: sc-40553-V.

Positive Controls: eIF3 ζ (h): 293T Lysate: sc-111592 or HeLa whole cell lysate: sc-2200.

DATA



eIF3 ζ (H-300): sc-28856. Western blot analysis of eIF3 ζ expression in non-transfected 293T: sc-117752 (A), human eIF3 ζ transfected 293T: sc-111592 (B) and HeLa (C) whole cell lysates.



eIF3 ζ (H-300): sc-28856. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic staining of cells in seminiferous ducts and Leydig cells (B).

STORAGE

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

PROTOCOLS

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

MONOS
Satisfaction
Guaranteed

Try eIF3 ζ (H-7): sc-271515 or eIF3 ζ (A-3): sc-271516, our highly recommended monoclonal alternatives to eIF3 ζ (H-300).