

eIF3 η (H-300): sc-28857

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 ω , 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^{Met} 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. Valásek, 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 connectTOR 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.

CHROMOSOMAL LOCATION

Genetic locus: EIF3B (human) mapping to 7p22.3; Eif3b (mouse) mapping to 5 G2.

SOURCE

eIF3 η (H-300) is a rabbit polyclonal antibody raised against amino acids 131-300 mapping within an internal region of eIF3 η of human origin.

PRODUCT

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

STORAGE

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

RESEARCH USE

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

APPLICATIONS

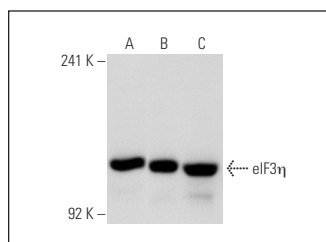
eIF3 η (H-300) is recommended for detection of eIF3 η of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 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).

Suitable for use as control antibody for eIF3 η siRNA (h): sc-35280, eIF3 η siRNA (m): sc-35281, eIF3 η shRNA Plasmid (h): sc-35280-SH, eIF3 η shRNA Plasmid (m): sc-35281-SH, eIF3 η shRNA (h) Lentiviral Particles: sc-35280-V and eIF3 η shRNA (m) Lentiviral Particles: sc-35281-V.

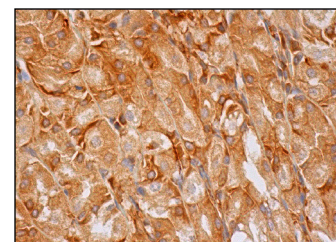
Molecular Weight of eIF3 η : 116 kDa.

Positive Controls: A-431 nuclear extract: sc-2122, Jurkat nuclear extract: sc-2132 or eIF3 η (h): 293T Lysate: sc-112106.

DATA



eIF3 η (H-300): sc-28857. Western blot analysis of eIF3 η expression in non-transfected: sc-117752 (A) and human eIF3 η transfected: sc-112106 (B) 293T whole cell lysates and A-431 nuclear extract (C).



eIF3 η (H-300): sc-28857. Immunoperoxidase staining of formalin fixed, paraffin-embedded human upper stomach tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Pineiro, D., et al. 2010. Analysis of the protein expression changes during taxol-induced apoptosis under translation inhibition conditions. *Mol. Cell. Biochem.* 345: 131-144.
2. Novotny, I., et al. 2012. Nuclear LSm8 affects number of cytoplasmic processing bodies via controlling cellular distribution of Like-Sm proteins. *Mol. Biol. Cell* 23: 3776-3785.
3. Villa, N., et al. 2013. Human eukaryotic initiation factor 4G (eIF4G) protein binds to eIF3c, - δ , and - ϵ to promote mRNA recruitment to the ribosome. *J. Biol. Chem.* 288: 32932-32940.

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