

eIF3 α (H-1): sc-376651

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-tRNAⁱMet 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., et al. 2005. eIF3: a connector of S6K1 to the translation preinitiation complex. *Mol. Cell* 20: 655-657.

CHROMOSOMAL LOCATION

Genetic locus: EIF3J (human) mapping to 15q21.1; Eif3j1 (mouse) mapping to 2 E5.

SOURCE

eIF3 α (H-1) is a mouse monoclonal antibody raised against amino acids 9-258 mapping at the C-terminus of eIF3 α of human origin.

PRODUCT

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

APPLICATIONS

eIF3 α (H-1) is recommended for detection of eIF3 α of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for eIF3 α siRNA (h): sc-40547, eIF3 α siRNA (m): sc-40548, eIF3 α shRNA Plasmid (h): sc-40547-SH, eIF3 α shRNA Plasmid (m): sc-40548-SH, eIF3 α shRNA (h) Lentiviral Particles: sc-40547-V and eIF3 α shRNA (m) Lentiviral Particles: sc-40548-V.

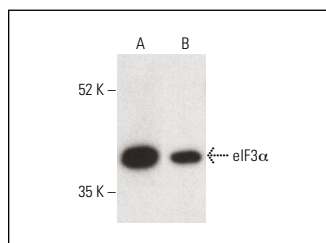
Molecular Weight of eIF3 α : 36 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, WI-38 whole cell lysate: sc-364260 or K-562 whole cell lysate: sc-2203.

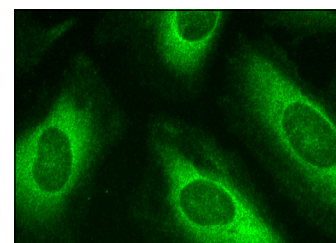
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz MarkerTM Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



eIF3 α (H-1): sc-376651. Western blot analysis of eIF3 α expression in K-562 (A) and WI-38 (B) whole cell lysates. Detection reagent used: m-IgG κ BP-HRP: sc-516102.



eIF3 α (H-1): sc-376651. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Li, T., et al. 2018. Knockdown of eIF3 α inhibits TGF β 1-induced extracellular matrix protein expression in keloid fibroblasts. *Mol. Med. Rep.* 17: 4057-4061.
2. Kim, J., et al. 2021. Stress-induced accumulation of HnRNP K into stress granules. *J. Cancer Sci. Clin. Ther.* 5: 434-447.
3. Chen, Y., et al. 2021. m⁶A mRNA methylation regulates testosterone synthesis through modulating autophagy in Leydig cells. *Autophagy* 17: 457-475.

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.

PROTOCOLS

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