

eIF30 (E-1): sc-365789



The Power to Question

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. 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 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.

CHROMOSOMAL LOCATION

Genetic locus: EIF3A (human) mapping to 10q26.11; Eif3a (mouse) mapping to 19 D3.

SOURCE

eIF30 (E-1) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of eIF30 of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

eIF30 (E-1) is available conjugated to agarose (sc-365789 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365789 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365789 PE), fluorescein (sc-365789 FITC), Alexa Fluor[®] 488 (sc-365789 AF488), Alexa Fluor[®] 546 (sc-365789 AF546), Alexa Fluor[®] 594 (sc-365789 AF594) or Alexa Fluor[®] 647 (sc-365789 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-365789 AF680) or Alexa Fluor[®] 790 (sc-365789 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

eIF30 (E-1) is recommended for detection of eIF30 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), 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 eIF30 siRNA (h): sc-40550, eIF30 siRNA (m): sc-40551, eIF30 shRNA Plasmid (h): sc-40550-SH, eIF30 shRNA Plasmid (m): sc-40551-SH, eIF30 shRNA (h) Lentiviral Particles: sc-40550-V and eIF30 shRNA (m) Lentiviral Particles: sc-40551-V.

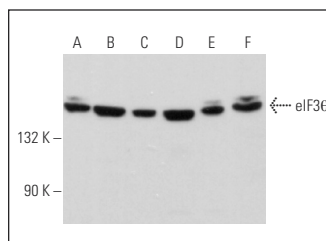
Molecular Weight of eIF30: 170 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, HEK293 whole cell lysate: sc-45136 or RAW 264.7 whole cell lysate: sc-2211.

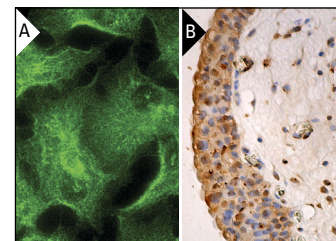
RECOMMENDED SUPPORT REAGENTS

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 Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (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. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



eIF30 (E-1): sc-365789. Western blot analysis of eIF30 expression in HEK293 (A), NIH/3T3 (B), U-251-MG (C), RAW 264.7 (D), Jurkat (E) and Caco-2 (F) whole cell lysates.



eIF30 (E-1): sc-365789. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and membrane localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing cytoplasmic and nuclear staining of squamous epithelial cells (B).

SELECT PRODUCT CITATIONS

1. Vo, D.K., et al. 2021. Interactome mapping of eIF3A in a colon cancer and an immortalized embryonic cell line using proximity-dependent biotin identification. *Cancers* 13: 1293.

RESEARCH USE

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