# SANTA CRUZ BIOTECHNOLOGY, INC.

# elF30 (E-1): sc-365789



## 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 $\zeta$ , 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-MettRNAiMet 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

- 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.
- 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  $\mu g$   $lgG_{2b}$  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  $\mu$ g/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-365789 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365789 PE), fluorescein (sc-365789 FITC), Alexa Fluor<sup>®</sup> 488 (sc-365789 AF488), Alexa Fluor<sup>®</sup> 546 (sc-365789 AF546), Alexa Fluor<sup>®</sup> 594 (sc-365789 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-365789 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-365789 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-365789 AF790), 200  $\mu$ 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

elF30 (E-1) is recommended for detection of elF30 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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 $\theta$  siRNA (h): sc-40550, eIF3 $\theta$  siRNA (m): sc-40551, eIF3 $\theta$  shRNA Plasmid (h): sc-40550-SH, eIF3 $\theta$  shRNA Plasmid (m): sc-40551-SH, eIF3 $\theta$  shRNA (h) Lentiviral Particles: sc-40550-V and eIF3 $\theta$  shRNA (m) Lentiviral Particles: sc-40551-V.

Molecular Weight of elF30: 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-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ 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/313 (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

 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.