# SANTA CRUZ BIOTECHNOLOGY, INC.

# elF3β (A-7): sc-374156



## 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 $\varepsilon$ , eIF3 $\gamma$ , 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-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.

## **CHROMOSOMAL LOCATION**

Genetic locus: EIF3I (human) mapping to 1p35.1; Eif3i (mouse) mapping to 4 D2.2.

## SOURCE

elF3 $\beta$  (A-7) is a mouse monoclonal antibody raised against amino acids 1-300 mapping within an internal region of elF3 $\beta$  of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

elF3 $\beta$  (A-7) is available conjugated to agarose (sc-374156 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-374156 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374156 PE), fluorescein (sc-374156 FITC), Alexa Fluor<sup>®</sup> 488 (sc-374156 AF488), Alexa Fluor<sup>®</sup> 546 (sc-374156 AF546), Alexa Fluor<sup>®</sup> 594 (sc-374156 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-374156 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-374156 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-374156 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## **APPLICATIONS**

elF3 $\beta$  (A-7) is recommended for detection of elF3 $\beta$  of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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 $\beta$  siRNA (h): sc-60080, eIF3 $\beta$  siRNA (m): sc-60081, eIF3 $\beta$  shRNA Plasmid (h): sc-60080-SH, eIF3 $\beta$  shRNA Plasmid (m): sc-60081-SH, eIF3 $\beta$  shRNA (h) Lentiviral Particles: sc-60080-V and eIF3 $\beta$  shRNA (m) Lentiviral Particles: sc-60081-V.

Molecular Weight of elF3<sub>β</sub>: 36 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, T24 cell lysate: sc-2292 or MCF7 whole cell lysate: sc-2206.

#### **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





eIF3 $\beta$  (A-7): sc-374156. Western blot analysis of eIF3 $\beta$  expression in T24 (**A**), SJRH30 (**B**), Jurkat (**C**), SH-SY5Y (**D**), MCF7 (**E**) and HeLa (**F**) whole cell lysates

elF3β (A-7): sc-374156. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, parafin-embedded human placenta tissue showing cytoplasmic staining of decidual cells (**B**).

## SELECT PRODUCT CITATIONS

- Jia, J., et al. 2017. Premature termination codon readthrough in human cells occurs in novel cytoplasmic foci and requires UPF proteins. J. Cell Sci. 130: 3009-3022.
- 2. Ertay, A., et al. 2020. WDHD1 is essential for the survival of PTEN-inactive triple-negative breast cancer. Cell Death Dis. 11: 1001.
- Lu, W., et al. 2021. Succinylation regulators promote clear cell renal cell carcinoma by immune regulation and RNA N6-methyladenosine methylation. Front. Cell Dev. Biol. 9: 622198.
- 4. Suganuma, T., et al. 2022. MOCS2 links nucleotide metabolism to nucleoli function. J. Mol. Cell Biol. 13: 838-840.

#### **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.