SANTA CRUZ BIOTECHNOLOGY, INC.

eIF3β (A-7): sc-374156

SANTA CRUZ BIOTECHNOLOGY

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 eIF3α, eIF3β, eIF3γ, eIF3δ, eIF3ε, eIF3ζ, eIF3η and eIF3θ, 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

eIF3β (A-7) is a mouse monoclonal antibody raised against amino acids 1-300 mapping within an internal region of eIF3β of human origin.

PRODUCT

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

eIF3β (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® 488 (sc-374156 AF488), Alexa Fluor® 546 (sc-374156 AF546), Alexa Fluor® 594 (sc-374156 AF594) or Alexa Fluor® 647 (sc-374156 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374156 AF680) or Alexa Fluor® 790 (sc-374156 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

eIF3β (A-7) is recommended for detection of eIF3β 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 eIF3β siRNA (h): sc-60080, eIF3β siRNA (m): sc-60081, eIF3β shRNA Plasmid (h): sc-60080-SH, eIF3β shRNA Plasmid (m): sc-60081-SH, eIF3β shRNA (h) Lentiviral Particles: sc-60080-V and eIF3β shRNA (m) Lentiviral Particles: sc-60081-V.

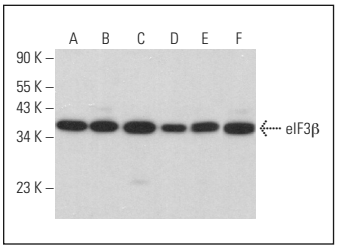
Molecular Weight of eIF3β: 36 kDa.

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

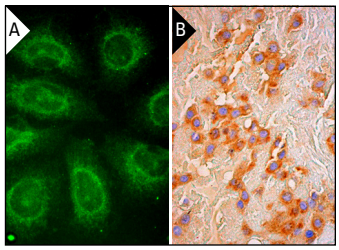
RECOMMENDED SUPPORT REAGENTS

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™ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



eIF3β (A-7): sc-374156. Western blot analysis of eIF3β expression in T24 (**A**), SJRH30 (**B**), Jurkat (**C**), SH-SY5Y (**D**), MCF7 (**E**) and HeLa (**F**) whole cell lysates.



eIF3β (A-7): sc-374156. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic staining of decidual cells (**B**).

SELECT PRODUCT CITATIONS

1. 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.
3. 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. 2021. MOCS2 links nucleotide metabolism to nucleoli function. J. Mol. Cell Biol. E-published.

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.