SANTA CRUZ BIOTECHNOLOGY, INC.

eIF3β (B-6): sc-271539

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 as-sembly 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 (B-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 215-242 near the C-terminus of eIF3β of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-271539 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

eIF3β (B-6) 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

eIF3β (B-6) is also recommended for detection of eIF3β in additional species, including canine, bovine and avian.

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.

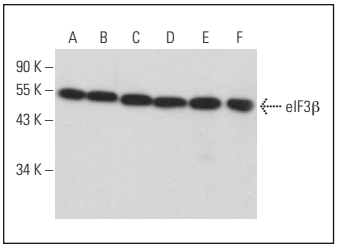
Molecular Weight of eIF3β: 36 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Jurkat whole cell lysate: sc-2204 or A-431 whole cell lysate: sc-2201.

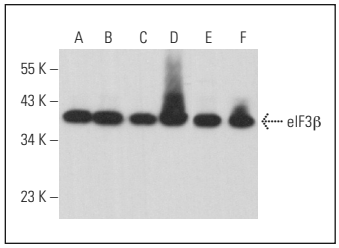
RECOMMENDED SUPPORT REAGENTS

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.

DATA



eIF3β (B-6): sc-271539. Western blot analysis of eIF3β expression in HeLa (**A**), Ca Ski (**B**), MCF7 (**C**), SH-SY5Y (**D**), Jurkat (**E**) and A-431 (**F**) whole cell lysates.



eIF3β (B-6): sc-271539. Western blot analysis of eIF3β expression in HeLa (**A**), Jurkat (**B**), Hep G2 (**C**), NIH/3T3 (**D**), AMJ2-C8 (**E**) and Neuro-2A (**F**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Ramachandran, A., et al. 2012. Localization of transforming growth factor β receptor II interacting protein-1 in bone and teeth: implications in matrix mineralization. J. Histochem. Cytochem. 60: 323-337.
2. Jones, B.L., et al. 2013. Stress granules form in *Brachionus manjavacas (Rotifera)* in response to a variety of stressors. Comp. Biochem. Physiol. A Mol. Integr. Physiol. 166: 375-384.
3. Zeng, L., et al. 2013. The µ subunit of murine translation initiation factor eIF3 maintains the integrity of the eIF3 complex and is required for embryonic development, homeostasis, and organ size control. J. Biol. Chem. 288: 30087-30093.
4. Brugnoli, F., et al. 2013. In triple negative breast tumor cells, PLC-β2 promotes the conversion of $CD133^{high}$ to $CD133^{low}$ phenotype and reduces the CD133-related invasiveness. Mol. Cancer 12: 165.
5. Zang, Y., et al. 2017. Eukaryotic translation initiation factor 3b is both a promising prognostic biomarker and a potential therapeutic target for patients with clear cell renal cell carcinoma. J. Cancer 8: 3049-3061.
6. Bianchi, N., et al. 2021. The motility and mesenchymal features of breast cancer cells correlate with the levels and intracellular localization of transglutaminase type 2. Cells 10: 3059.

RESEARCH USE

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