SANTA CRUZ BIOTECHNOLOGY, INC.

eIF6 (A-12): sc-390441

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. eIF6 (eukaryotic translation initiation factor 6) is also known as CAB, B2GCN homolog, p27^{BBP} or B4 integrin interactor and is a 245 amino acid protein that is localized to the cytoplasm, as well as to the nucleolus within the nucleus. The eIF6 N-terminal and C-terminal subdomains are thought to contain important nucleolar localization sequences. eIF6 may be a regulator of ribosomal function and creation. eIF6 functions to bind and translocate the 60S ribosomal subunit from the nucleus to the cytoplasm, effectively preventing the 60S subunit from associating with the 40S subunit and inhibiting formation of the 80S initiation complex. The regulation of the formation of the 80S ribosomes also regulates transcription. Once translocated to the cytoplasm, the eIF6-60S ribosomal subunit complex is subject to phosphorylation via the RACK1/PKC pathway, an event that results in the dissociation of eIF6 from the 60S subunit. Upregulation of eIF6 is strongly associated with a variety of of cancers, such as ovarian cancer, suggesting that eIF6 may be involved in carcinogenesis.

CHROMOSOMAL LOCATION

Genetic locus: EIF6 (human) mapping to 20q11.22; Eif6 (mouse) mapping to 2 H1.

SOURCE

eIF6 (A-12) is a mouse monoclonal antibody raised against amino acids 1-245 representing full length eIF6 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.

APPLICATIONS

eIF6 (A-12) is recommended for detection of eIF6 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 eIF6 siRNA (h): sc-77255, eIF6 siRNA (m): sc-77256, eIF6 shRNA Plasmid (h): sc-77255-SH, eIF6 shRNA Plasmid (m): sc-77256-SH, eIF6 shRNA (h) Lentiviral Particles: sc-77255-V and eIF6 shRNA (m) Lentiviral Particles: sc-77256-V.

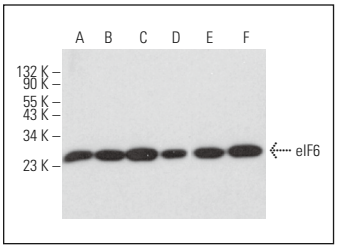
Molecular Weight of eIF6: 27 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, K-562 whole cell lysate: sc-2203 or BYDP whole cell lysate: sc-364368.

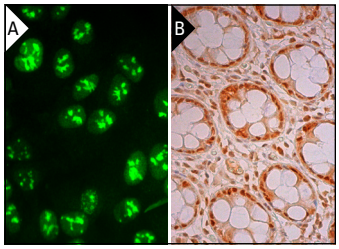
RECOMMENDED SUPPORT REAGENTS

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



eIF6 (A-12): sc-390441. Western blot analysis of eIF6 expression in K-562 (**A**), HCT-116 (**B**), Hep G2 (**C**), BYDP (**D**), HEK293T (**E**) and SK-BR-3 (**F**) whole cell lysates.



eIF6 (A-12): sc-390441. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nucleolar and nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human colon tissue showing cytoplasmic and nuclear staining of glandular cells and endothelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Wyler, E., et al. 2014. The β-isoform of the BRCA2 and CDKN1A(p21)-interacting protein (BCCIP) stabilizes nuclear RPL23/uL14. FEBS Lett. 588: 3685-3691.
2. Wandrey, F., et al. 2015. The NF45/NF90 heterodimer contributes to the biogenesis of 60S ribosomal subunits and influences nucleolar morphology. Mol. Cell. Biol. 35: 3491-3503.
3. Elliff, J., et al. 2023. Dynamic states of eIF6 and SDS variants modulate interactions with uL14 of the 60S ribosomal subunit. Nucleic Acids Res. 51: 1803-1822.

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.