SANTA CRUZ BIOTECHNOLOGY, INC.

eIF5B (D-9): sc-393564

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

In mammalian cells, translation is controlled at the level of polypeptide chain initiation by initiation factors. The eukaryotic translation initiation factor 5 (eIF5) catalyzes the hydrolysis of GTP bound to the 40S ribosomal subunit, a function necessary for the subsequent joining of the 40S and 60S subunits to form the 80S initiation complex. eIF5B (eukaryotic translation initiation factor 5B), also known as translation initiation factor IF-2, is a 1,120 amino acid cytoplasmic protein that functions in general translation initiation by promoting the binding of the formylmethionine-tRNA to ribosomes. eIF5B interacts with Annexin V, an anticoagulant protein, in a calcium and phospholipid-dependent manner. Since eIF5B is conserved among all three kingdoms of life, it is also known as an universal initiation factor.

CHROMOSOMAL LOCATION

Genetic locus: EIF5B (human) mapping to 2q11.2; Eif5b (mouse) mapping to 1 B.

SOURCE

eIF5B (D-9) is a mouse monoclonal antibody raised against amino acids 721-1020 mapping near the C-terminus of eIF5B 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.

eIF5B (D-9) is available conjugated to agarose (sc-393564 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393564 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393564 PE), fluorescein (sc-393564 FITC), Alexa Fluor® 488 (sc-393564 AF488), Alexa Fluor® 546 (sc-393564 AF546), Alexa Fluor® 594 (sc-393564 AF594) or Alexa Fluor® 647 (sc-393564 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393564 AF680) or Alexa Fluor® 790 (sc-393564 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

eIF5B (D-9) is recommended for detection of eIF5B 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).

eIF5B (D-9) is also recommended for detection of eIF5B in additional species, including equine, canine and porcine.

Suitable for use as control antibody for eIF5B siRNA (h): sc-94706, eIF5B siRNA (m): sc-144625, eIF5B shRNA Plasmid (h): sc-94706-SH, eIF5B shRNA Plasmid (m): sc-144625-SH, eIF5B shRNA (h) Lentiviral Particles: sc-94706-V and eIF5B shRNA (m) Lentiviral Particles: sc-144625-V.

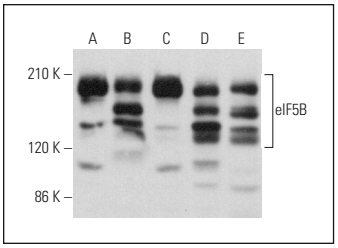
Molecular Weight of eIF5B: 175 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, Jurkat whole cell lysate: sc-2204 or K-562 whole cell lysate: sc-2203.

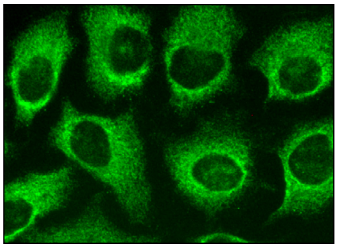
RECOMMENDED SUPPORT REAGENTS

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



eIF5B (D-9): sc-393564. Western blot analysis of eIF5B expression in Jurkat (**A**), Hep G2 (**B**), K-562 (**C**) and NIH/3T3 (**D**) whole cell lysates and rat testis tissue extract (**E**).



eIF5B (D-9): sc-393564. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Hassanzadeh, G., et al. 2019. Characterizing cellular responses during oncolytic maraba virus infection. Int. J. Mol. Sci. 20: 580.
2. Ho, J.J.D., et al. 2020. A network of RNA-binding proteins controls translation efficiency to activate anaerobic metabolism. Nat. Commun. 11: 2677.
3. Bondy-Chorney, E., et al. 2020. A broad response to intracellular long-chain polyphosphate in human cells. Cell Rep. 33: 108318.
4. Theodoridis, P.R., et al. 2021. Local translation in nuclear condensate Amyloid bodies. Proc. Natl. Acad. Sci. USA 118: e2014457118.
5. Kyriakopoulos, G., et al. 2021. $KRAS^{G12C}$ can either promote or impair cap-dependent translation in two different lung adenocarcinoma cell lines. Int. J. Mol. Sci. 22: 2222.
6. Jobava, R., et al. 2021. Adaptive translational pausing is a hallmark of the cellular response to severe environmental stress. Mol. Cell 81: 4191-4208.e8.

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.

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