SANTA CRUZ BIOTECHNOLOGY, INC.

eIF5 (E-10): sc-28309

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. eIF-4E specifically binds to the mRNA cap to promote unwinding and exposure of the AUG-initiation codon. Overexpression of eIF-4E can lead to cell transformation and tumorigenesis. An additional initiation factor, eIF-2, is present as a heterotrimer composed of eIF-2α, eIF-2β and eIF-2γ subunits. This heterotrimer forms a complex with GTP and tRNA which then binds to the 40S ribosomal subunit. After the formation of the 80S initiation complex, eIF-2 is hydrolyzed and eIF-2-GDP is released from the complex. eIF-2-GDP is subsequently converted to eIF-2-GTP, a reaction catalyzed by eIF-2B, and is then available to catalyze another round of initiation.

CHROMOSOMAL LOCATION

Genetic locus: EIF5 (human) mapping to 14q32.32; Eif5 (mouse) mapping to 12 F1.

SOURCE

eIF5 (E-10) is a mouse monoclonal antibody raised against amino acids 1-300 of eIF5 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.

eIF5 (E-10) is available conjugated to agarose (sc-28309 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-28309 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-28309 PE), fluorescein (sc-28309 FITC), Alexa Fluor® 488 (sc-28309 AF488), Alexa Fluor® 546 (sc-28309 AF546), Alexa Fluor® 594 (sc-28309 AF594) or Alexa Fluor® 647 (sc-28309 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-28309 AF680) or Alexa Fluor® 790 (sc-28309 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

eIF5 (E-10) is recommended for detection of eIF5 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1,000), 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).

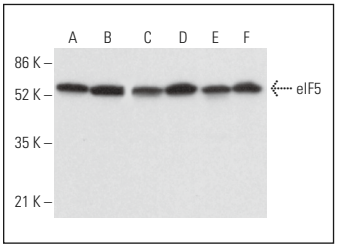
Suitable for use as control antibody for eIF5 siRNA (h): sc-35288, eIF5 siRNA (m): sc-35289, eIF5 shRNA Plasmid (h): sc-35288-SH, eIF5 shRNA Plasmid (m): sc-35289-SH, eIF5 shRNA (h) Lentiviral Particles: sc-35288-V and eIF5 shRNA (m) Lentiviral Particles: sc-35289-V.

Molecular Weight of eIF5: 50 kDa.

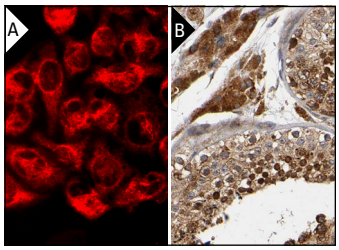
STORAGE

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

DATA



eIF5 (E-10): sc-28309. Western blot analysis of eIF5 expression in A-431 (**A**), BC_3H1 (**B**), Jurkat (**C**), MCF7 (**D**), C2C12 (**E**) and A-10 (**F**) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



eIF5 (E-10): sc-28309. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic staining of cells in ductus seminiferus and Leydig cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (**B**).

SELECT PRODUCT CITATIONS

1. Li, Z., et al. 2009. Proteomic profiling reveals comprehensive insights into adrenergic receptor-mediated hypertrophy in neonatal rat cardiomyocytes. Proteomics Clin. Appl. 3: 1407-1421.
2. Li, Z., et al. 2013. Heat shock protein 70 acts as a potential biomarker for early diagnosis of heart failure. PLoS ONE 8: e67964.
3. Taha, M.S., et al. 2014. Subcellular fractionation and localization studies reveal a direct interaction of the fragile X mental retardation protein (FMRP) with nucleolin. PLoS ONE 9: e91465.
4. Lian, G., et al. 2019. Macrophage metabolic reprogramming aggravates aortic dissection through the HIF1α-ADAM17 pathway*. EBioMedicine 49: 291-304.
5. Zhao, G., et al. 2021. KLF11 protects against abdominal aortic aneurysm through inhibition of endothelial cell dysfunction. JCI Insight 6: e141673.
6. Chen, T., et al. 2021. Mast cell and heparin promote adipogenesis in superficial fascia of rats. Biochim. Biophys. Acta Mol. Cell Biol. Lipids 1866: 159024.
7. Wang, G., et al. 2022. The Annexin A2-Notch regulatory loop in hepatocytes promotes liver fibrosis in NAFLD by increasing osteopontin expression. Biochim. Biophys. Acta Mol. Basis Dis. 1868: 166413.
8. Duan, J., et al. 2023. Senescence-associated 13-HODE production promotes age-related liver steatosis by directly inhibiting catalase activity. Nat. Commun. 14: 8151.
9. Zakutansky, P.M., et al. 2024. Isoform balance of the long noncoding RNA NEAT1 is regulated by the RNA-binding protein QKI, governs the glioma transcriptome, and impacts cell migration. J. Biol. Chem. 300: 107595.

RESEARCH USE

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