SANTA CRUZ BIOTECHNOLOGY, INC.

eIF5 (C-14): sc-282

BACKGROUND

In mammalian cells, translation is controlled at the level of polypeptide chain initiation by eukaryotic initiation factors. The 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. eIF4E specifically binds to the mRNA cap to promote unwinding and exposure of the AUG-initiation codon. Overexpression of eIF4E can lead to cell transformation and tumorigenesis. An additional initiation factor, eIF2, is present as a heterotrimer composed of eIF2α, eIF2β and eIF2γ 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, eIF2 is hydrolyzed and eIF2-GDP is released from the complex. eIF2-GDP is subsequently converted to eIF2-GTP, a reaction catalyzed by eIF2B, 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 (C-14) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of eIF5 of rat origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-282 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

eIF5 (C-14) is recommended for detection of eIF5 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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 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.

Positive Controls: eIF5 (m2): 293T Lysate: sc-119994, K-562 whole cell lysate: sc-2203 or A-431 whole cell lysate: sc-2201.

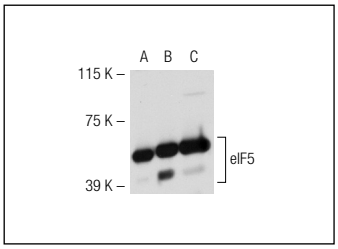
STORAGE

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

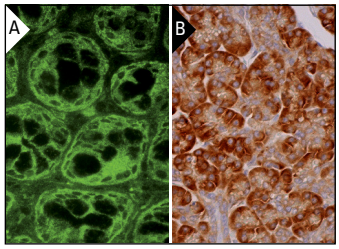
RESEARCH USE

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

DATA



eIF5 (C-14): sc-282. Western blot analysis of eIF5 expression in non-transfected 293T: sc-117752 (**A**), mouse eIF5 transfected 293T: sc-119994 (**B**) and A-431 (**C**) whole cell lysates.



eIF5 (C-14): sc-282. Immunofluorescence staining of normal mouse intestine frozen section showing cytoplasmic staining (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of exocrine glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Zheng, J.Q., et al. 2001. A functional role for intra-axonal protein synthesis during axonal regeneration from adult sensory neurons. J. Neurosci. 21: 9291-9303.
2. Lu, R., et al. 2004. The fragile X protein controls microtubule-associated protein 1B translation and microtubule stability in brain neuron development. Proc. Natl. Acad. Sci. USA 101: 15201-15206.
3. Bao, J., et al. 2004. Activity-dependent transcription regulation of PSD-95 by Neuregulin-1 and Eos. Nat. Neurosci. 7: 1250-1258.
4. Gilks, N., et al. 2004. Stress granule assembly is mediated by prion-like aggregation of TIA-1. Mol. Biol. Cell 15: 5383-5398.
5. Dang, Y., et al. 2006. Eukaryotic initiation factor 2α-independent pathway of stress granule induction by the natural product pateamine A. J. Biol. Chem. 281: 32870-32878.
6. Zhao, L., et al. 2006. QKI binds MAP-1B mRNA and enhances MAP-1B expression during oligodendrocyte development. Mol. Biol. Cell 17: 4179-4186.
7. Sun, Q., et al. 2008. Transforming growth factor-β-regulated miR-24 promotes skeletal muscle differentiation. Nucleic Acids Res. 36: 2690-2699.
8. Müller, S., et al. 2014. SIAH2 antagonizes TYK2-STAT3 signaling in lung carcinoma cells. Oncotarget 5: 3184-3196.