

eIF5A (H-8): sc-390202

BACKGROUND

In mammalian cells, translation is controlled at the level of polypeptide chain initiation by eukaryotic initiation factors. The human eukaryotic translation initiation factor 5A gene, also designated eIF-4D or eIF5A1, maps to chromosome 17p131 and encodes a 154 amino acid protein that is linked to cellular polyamine homeostasis. eIF5A1 localizes to the nuclear and cytoplasmic compartments of mammalian cells where it can stimulate ribosomal peptidyl-transferase and may be involved in nucleocytoplasmic mRNA transport and/or protein translation. eIF5A1 contains a unique spermidine-derived post-translational modification at Lys-50, hypusine, which is necessary for eIF5A1's biochemical activity and for cellular proliferative signaling. In addition, eIF5A1 is a cellular cofactor for the function of the Rev transactivator protein of human immunodeficiency virus type 1 (HIV-1). Inhibition of eIF5A1 interaction with Rev leads to a block of the viral replication cycle. A highly-conserved protein that is found in all living organisms, eIF5A2 (eukaryotic translation initiation factor 5A-2) is a 153 amino acid protein that has 94% sequence similarity to eIF5A1 and also shares the hypusine residue. Amplification of the gene encoding eIF5A2 is observed in ovarian carcinomas and overexpression of eIF5A2 is linked to advanced stages of ovarian cancers.

SOURCE

eIF5A (H-8) is a mouse monoclonal antibody raised against amino acids 9-124 mapping near the N-terminus of eIF5A1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

eIF5A (H-8) is available conjugated to agarose (sc-390202 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390202 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390202 PE), fluorescein (sc-390202 FITC), Alexa Fluor® 488 (sc-390202 AF488), Alexa Fluor® 546 (sc-390202 AF546), Alexa Fluor® 594 (sc-390202 AF594) or Alexa Fluor® 647 (sc-390202 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390202 AF680) or Alexa Fluor® 790 (sc-390202 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

eIF5A (H-8) is recommended for detection of eIF5A1 and eIF5A2 of mouse, rat and human origin and eIF5AL1 of 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). eIF5A (H-8) is also recommended for detection of eIF5A1, eIF5A2 and eIF5AL1 in additional species, including equine, canine, bovine and porcine.

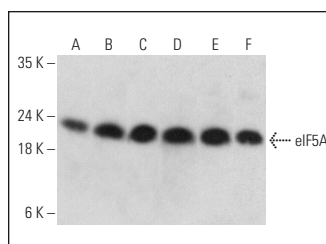
Molecular Weight of eIF5A: 17 kDa.

Positive Controls: HUV-EC-C whole cell lysate: sc-364180, Jurkat whole cell lysate: sc-2204 or SW480 cell lysate: sc-2219.

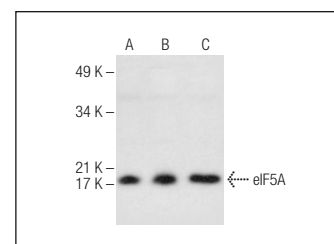
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BPHRP: sc-516102 or m-IgGκ BPHRP (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 BPFITC: sc-516140 or m-IgGκ BPE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



eIF5A (H-8): sc-390202. Western blot analysis of eIF5A expression in A-431 (A), MOLT-4 (B), C2C12 (C), I-11.15 (D), NRK (E) and A-10 (F) whole cell lysates.



eIF5A (H-8): sc-390202. Western blot analysis of eIF5A expression in HUV-EC-C (A), Jurkat (B) and SW480 (C) whole cell lysates.

SELECT PRODUCT CITATIONS

- Chen, D.J., et al. 2014. Cadmium induces cytotoxicity in human bronchial epithelial cells through upregulation of eIF5A1 and NFκB. *Biochem. Biophys. Res. Commun.* 445: 95-99.
- Chen, D.J., et al. 2015. Proteomic analysis of secreted proteins by human bronchial epithelial cells in response to cadmium toxicity. *Proteomics* 15: 3075-3086.
- Xu, Y.M., et al. 2019. Cadmium telluride quantum dot-exposed human bronchial epithelial cells: a further study of the cellular response by proteomics. *Toxicol. Res.* 8: 994-1001.
- Rizzotto, D., et al. 2020. Nutlin-induced apoptosis is specified by a translation program regulated by PCBP2 and DHX30. *Cell Rep.* 30: 4355-4369.e6.
- Balukoff, N.C., et al. 2020. A translational program that suppresses metabolism to shield the genome. *Nat. Commun.* 11: 5755.
- Becker, A.E., et al. 2021. eIF5A-independent role of DHPS in p21^{CIP1} and cell fate regulation. *Int. J. Mol. Sci.* 22: 13187.
- Ha, D.P., et al. 2022. Targeting GRP78 suppresses oncogenic KRAS protein expression and reduces viability of cancer cells bearing various KRAS mutations. *Neoplasia* 33: 100837.

STORAGE

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

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