

eIF5A (H-116): sc-366096

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.

REFERENCES

1. Smit-McBride, Z., et al. 1989. Sequence determination and cDNA cloning of eukaryotic initiation factor 4D, the hypusine-containing protein. *J. Biol. Chem.* 264: 1578-1583.
2. Hershey, J.W. 1991. Translational control in mammalian cells. *Annu. Rev. Biochem.* 60: 717-755.
3. Merrick, W.C. 1992. Mechanism and regulation of eukaryotic protein synthesis. *Microbiol. Rev.* 56: 291-315.
4. Bevec, D., et al. 1994. Induced gene expression of the hypusine-containing protein eukaryotic initiation factor 5A in activated human T lymphocytes. *Proc. Natl. Acad. Sci. USA* 91: 10829-10833.
5. Steinkasserer, A., et al. 1995. The eukaryotic cofactor for the human immunodeficiency virus type 1 (HIV-1) rev protein, eIF-5A, maps to chromosome 17p12-p13: three eIF-5A pseudogenes map to 10q23.3, 17q25, and 19q13.2. *Genomics* 25: 749-752.
6. Jenkins, Z.A., et al. 2001. Human eIF5A2 on chromosome 3q25-q27 is a phylogenetically conserved vertebrate variant of eukaryotic translation initiation factor 5A with tissue-specific expression. *Genomics* 71: 101-119.

SOURCE

eIF5A (H-116) is a rabbit polyclonal antibody raised against amino acids 9-124 mapping near the N-terminus of eIF5A of human origin.

PRODUCT

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

STORAGE

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

APPLICATIONS

eIF5A (H-116) is recommended for detection of eIF5A1 and eIF5A2 of mouse, rat and human origin, and eIF5A1 of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with eIF5B.

eIF5A (H-116) is also recommended for detection of eIF5A1, eIF5A2 and eIF5A1 in additional species, including equine, canine, bovine, porcine and avian.

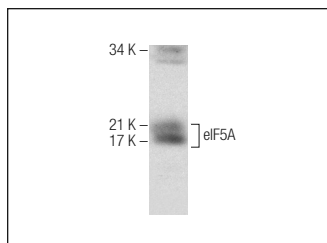
Molecular Weight of eIF5A: 17 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



eIF5A (H-116): sc-366096. Western blot analysis of eIF5A expression in Jurkat whole cell lysate.

RESEARCH USE

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

MONOS
Satisfaction
Guaranteed

Try **eIF5A (H-8): sc-390202** or **eIF5A (C-1): sc-390062**, our highly recommended monoclonal alternatives to eIF5A (H-116).