

eIF1AY (A-16): sc-84241

BACKGROUND

Ribosomes, made of ribonucleoprotein, are the cellular machinery used to catalyze assembly of amino acids into polypeptide chains translated from a template messenger RNA sequence. In eukaryotes, the ribosome consists of a 40S (small) and a 60S (large) subunit. Protein synthesis initiates through the binding of mRNA to the 40S subunit followed by an aminoacylated tRNA and the 60S subunit. The initiating charged tRNA, which base pairs with an AUG start codon on the mRNA, is bound to the essential amino acid methionine (Met). eIF1AY (eukaryotic translation initiation factor 1A, Y-chromosomal), also known as eIF-1A Y isoform and eIF-4C, is a 144 amino acid protein that is ubiquitously expressed and is thought to enhance protein biosynthesis. Ribosomal subunit dissociation and binding of the 40S subunit to Met-tRNA is assisted by eIF1AY. eIF1AY, a cytoplasmic protein, is encoded by a gene in the nonrecombining region of the Y chromosome (NRY) in human and on chromosome 18 in mouse and rat where it is known as eIF1A. eIF-1AX, a related protein known as eIF1AY in mouse, is a 144 amino acid protein encoded by the X chromosome in human, mouse and rat. eIF1AY and eIF1AX contain a single S1-like domain.

REFERENCES

1. Lahn, B.T. and Page, D.C. 1997. Functional coherence of the human Y chromosome. *Science* 278: 675-680.
2. Krausz, C., Bussani-Mastellone, C., Granchi, S., McElreavey, K., Scarselli, G. and Forti, G. 1999. Screening for microdeletions of Y chromosome genes in patients undergoing intracytoplasmic sperm injection. *Hum. Reprod.* 14: 1717-1721.
3. Lau, Y.F. and Zhang, J. 2000. Expression analysis of thirty one Y chromosome genes in human prostate cancer. *Mol. Carcinog.* 27: 308-321.
4. Kleiman, S.E., Yogev, L., Hauser, R., Botchan, A., Maymon, B.B., Paz, G. and Yavetz, H. 2007. Expression profile of AZF genes in testicular biopsies of azoospermic men. *Hum. Reprod.* 22: 151-158.

CHROMOSOMAL LOCATION

Genetic locus: EIF1AY (human) mapping to Yq11.223, EIF1AX (human) mapping to Xp22.12; Eif1a (mouse) mapping to 18 C.

SOURCE

eIF1AY (A-16) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of eIF1AY of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-84241 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

eIF1AY (G-17) is recommended for detection of eIF1AY and eIF1AX of human origin and eIF1A of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

eIF1AY (A-16) is also recommended for detection of eIF1AY and eIF1AX in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for eIF1A siRNA (m): sc-144609, eIF1A shRNA Plasmid (m): sc-144609-SH and eIF1A shRNA (m) Lentiviral Particles: sc-144609-V.

Molecular Weight (predicted) of eIF1AY: 16 kDa.

Molecular Weight (observed) of eIF1AY: 19 kDa.

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) 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.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.