

eIF1AY (1B4): sc-517065

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

- Lahn, B.T. and Page, D.C. 1997. Functional coherence of the human Y chromosome. *Science* 278: 675-680.
- Krausz, C., et al. 1999. Screening for microdeletions of Y chromosome genes in patients undergoing intracytoplasmic sperm injection. *Hum. Reprod.* 14: 1717-1721.
- Lau, Y.F. and Zhang, J. 2000. Expression analysis of thirty one Y chromosome genes in human prostate cancer. *Mol. Carcinog.* 27: 308-321.
- Kleiman, S.E., et al. 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; Eif1a (mouse) mapping to 18 C.

SOURCE

eIF1AY (1B4) is a mouse monoclonal antibody raised against amino acids 22-95 representing partial length eIF1AY of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml 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.

PROTOCOLS

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

APPLICATIONS

eIF1AY (1B4) is recommended for detection of eIF1AY 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for eIF1AY siRNA (h): sc-91551, eIF1AY siRNA (m): sc-144611, eIF1AY shRNA Plasmid (h): sc-91551-SH, eIF1AY shRNA Plasmid (m): sc-144611-SH, eIF1AY shRNA (h) Lentiviral Particles: sc-91551-V and eIF1AY shRNA (m) Lentiviral Particles: sc-144611-V.

Molecular Weight (predicted) of eIF1AY: 16 kDa.

Molecular Weight (observed) of eIF1AY: 19 kDa.

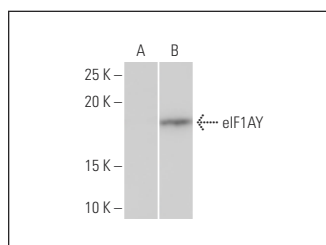
Positive Controls: HeLa whole cell lysate: sc-2200 or eIF1AY transfected 293T whole cell lysate.

RECOMMENDED SUPPORT REAGENTS

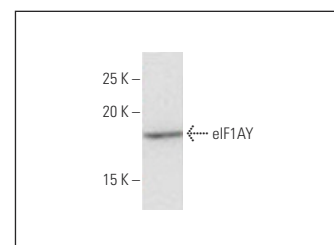
To ensure optimal results, the following support reagents are recommended:

- Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048.
- Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).
- Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



eIF1AY (1B4): sc-517065. Western blot analysis of eIF1AY expression in non-transfected (A) and eIF1AY transfected (B) 293T whole cell lysates.



eIF1AY (1B4): sc-517065. Western blot analysis of eIF1AY expression in HeLa whole cell lysate.

RESEARCH USE

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