

eIF2B β (YY7): sc-100729

BACKGROUND

The initiation of protein synthesis in eukaryotic cells is regulated by interactions between protein initiation factors and RNA molecules. The eukaryotic initiation complex eIF2B exists as a five subunit complex composed of eIF2B α , eIF2B β , eIF2B γ , eIF2B δ and eIF2B ϵ . The eIF2B complex catalyzes the exchange of GDP for GTP on the eIF2 complex, following the interaction of eIF2/GTP with the 40S ribosomal subunit. Guanine nucleotide exchange factor (GEF) activity was exhibited by the eIF2B ϵ subunit alone, but it was greater in the presence of all five eIF2B subunits. Phosphorylation of eIF2 inhibits GEF activity of eIF2B, an inhibition that requires the eIF2B α subunit.

REFERENCES

- Henderson, R.A., et al. 1994. The δ subunit of murine guanine nucleotide exchange factor eIF2B. Characterization of cDNAs predicts isoforms differing at the amino-terminal end. *J. Biol. Chem.* 269: 30517-30523.
- Flowers, K.M., et al. 1995. Structure and sequence of the gene encoding the α subunit of rat translation initiation factor 2B. *Biochim. Biophys. Acta* 1264: 163-167.
- Price, N.T., et al. 1996. Cloning of cDNA for the γ subunit of mammalian translation initiation factor 2B, the guanine nucleotide-exchange factor for eukaryotic initiation factor 2. *Biochem. J.* 318: 631-636.
- Price, N.T., et al. 1996. eIF2B, the guanine nucleotide-exchange factor for eukaryotic initiation factor 2. Sequence conservation between the α , β and δ subunits of eIF2B from mammals and yeast. *Biochem. J.* 318: 637-643.
- Asuru, A.I., et al. 1996. Cloning and characterization of cDNAs encoding the ϵ subunit of eukaryotic initiation factor 2B from rabbit and human. *Biochim. Biophys. Acta* 1307: 309-317.
- Webb, B.L., et al. 1997. Eukaryotic initiation factor 2B (eIF2B). *Int. J. Biochem. Cell Biol.* 29: 1127-1131.
- Fabian, J.R., et al. 1997. Subunit assembly and guanine nucleotide exchange activity of eukaryotic initiation factor-2B expressed in Sf9 cells. *J. Biol. Chem.* 272: 12359-12365.

CHROMOSOMAL LOCATION

Genetic locus: EIF2B2 (human) mapping to 14q24.3.

SOURCE

eIF2B β (YY7) is a mouse monoclonal antibody raised against recombinant eIF2B β of human origin.

PRODUCT

Each vial contains 50 μ g IgG $_1$ kappa light chain in 0.5 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

eIF2B β (YY7) is recommended for detection of eIF2B β of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 eIF2B β siRNA (h): sc-44556, eIF2B β shRNA Plasmid (h): sc-44556-SH and eIF2B β shRNA (h) Lentiviral Particles: sc-44556-V.

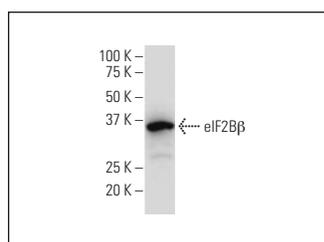
Molecular Weight of eIF2B β : 39 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, A-431 whole cell lysate: sc-2201 or Jurkat whole cell lysate: sc-2204.

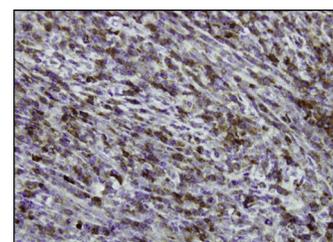
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (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-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



eIF2B β (YY7): sc-100729. Western blot analysis of eIF2B β expression in K-562 whole cell lysate.



eIF2B β (YY7): sc-100729. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human lymphoma tissue showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Wuerth, J.D., et al. 2020. eIF2B as a target for viral evasion of PKR-mediated translation inhibition. *mBio* 11: e00976-20.

RESEARCH USE

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