

# eIF2B $\beta$ (E-12): sc-376478

## 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 $\alpha$ , eIF2B $\beta$ , eIF2B $\gamma$ , eIF2B $\delta$ , and eIF2B $\epsilon$ . 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 is exhibited by the eIF2B $\epsilon$  subunit alone, but is greater in the presence of all five eIF2B subunits. Phosphorylation of eIF2 inhibits GEF activity of eIF2B, an inhibition that requires the eIF2B $\alpha$  subunit.

## REFERENCES

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- Flowers, K.M., et al. 1995. Structure and sequence of the gene encoding the  $\alpha$ -subunit of rat translation initiation factor-2B. *Biochim. Biophys. Acta* 1264: 163-167.
- Price, N.T., et al. 1996. Cloning of cDNA for the  $\gamma$ -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  $\alpha$ ,  $\beta$  and  $\delta$  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  $\epsilon$ -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 $\beta$  (E-12) is a mouse monoclonal antibody raised against amino acids 52-351 mapping at the C-terminus of eIF2B $\beta$  of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2a</sub> kappa light chain 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

eIF2B $\beta$  (E-12) is recommended for detection of eIF2B $\beta$  of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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 $\beta$  siRNA (h): sc-44556, eIF2B $\beta$  shRNA Plasmid (h): sc-44556-SH and eIF2B $\beta$  shRNA (h) Lentiviral Particles: sc-44556-V.

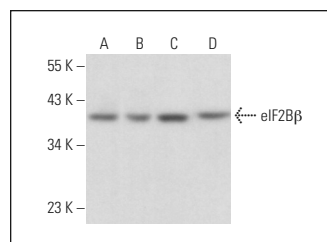
Molecular Weight of eIF2B $\beta$ : 39 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, HUV-EC-C whole cell lysate: sc-364180 or K-562 whole cell lysate: sc-2203.

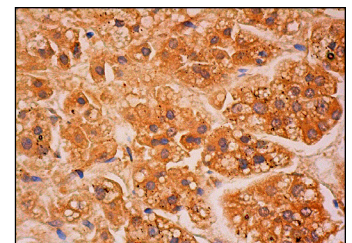
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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 $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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 $\kappa$  BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



eIF2B $\beta$  (E-12): sc-376478. Western blot analysis of eIF2B $\beta$  expression in K-562 (A), HUV-EC-C (B), MCF7 (C) and BYDP (D) whole cell lysates.



eIF2B $\beta$  (E-12): sc-376478. Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of glandular cells.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.