

# eIF2B $\beta$ (P-4): sc-9979

## 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.

## CHROMOSOMAL LOCATION

Genetic locus: EIF2B2 (human) mapping to 14q24.3; Eif2b2 (mouse) mapping to 12 D2.

## SOURCE

eIF2B $\beta$  (P-4) is a mouse monoclonal antibody raised against full length eIF2B $\beta$  of rat origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG $_1$  kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

eIF2B $\beta$  (P-4) is available conjugated to agarose (sc-9979 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-9979 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-9979 PE), fluorescein (sc-9979 FITC), Alexa Fluor<sup>®</sup> 488 (sc-9979 AF488), Alexa Fluor<sup>®</sup> 546 (sc-9979 AF546), Alexa Fluor<sup>®</sup> 594 (sc-9979 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-9979 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-9979 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-9979 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

## STORAGE

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

## APPLICATIONS

eIF2B $\beta$  (P-4) is recommended for detection of eIF2B $\beta$  of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000)n.

Suitable for use as control antibody for eIF2B $\beta$  siRNA (h): sc-44556, eIF2B $\beta$  siRNA (m): sc-44557, eIF2B $\beta$  shRNA Plasmid (h): sc-44556-SH, eIF2B $\beta$  shRNA Plasmid (m): sc-44557-SH, eIF2B $\beta$  shRNA (h) Lentiviral Particles: sc-44556-V and eIF2B $\beta$  shRNA (m) Lentiviral Particles: sc-44557-V.

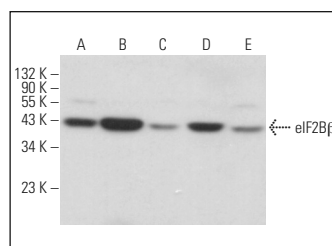
Molecular Weight of eIF2B $\beta$ : 39 kDa.

Positive Controls: eIF2B $\beta$  (h2): 293T Lysate: sc-172832, Neuro-2A whole cell lysate: sc-364185 or NIH/3T3 nuclear extract: sc-2138.

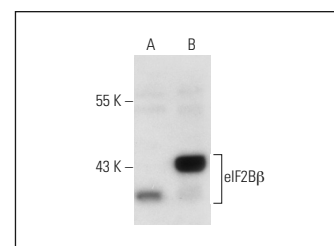
## RECOMMENDED SUPPORT REAGENTS

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<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## DATA



eIF2B $\beta$  (P-4): sc-9979. Western blot analysis of eIF2B $\beta$  expression in NIH/3T3 nuclear extract (A) and Neuro-2A (B), IMR-32 (C), C6 (D) and NCI-H460 (E) whole cell lysates.



eIF2B $\beta$  (P-4): sc-9979. Western blot analysis of eIF2B $\beta$  expression in non-transfected: sc-117752 (A) and human eIF2B $\beta$  transfected: sc-172832 (B) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS

- Balachandran, S., et al. 2004. Defective translational control facilitates vesicular stomatitis virus oncolysis. *Cancer Cell* 5: 51-65.
- Liu, R., et al. 2011. Severity of vanishing white matter disease does not correlate with deficits in eIF2B activity or the integrity of eIF2B complexes. *Hum. Mutat.* 32: 1036-1045.
- Wortham, N.C., et al. 2014. Analysis of the subunit organization of the eIF2B complex reveals new insights into its structure and regulation. *FASEB J.* 28: 2225-2237.

## 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.

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