SANTA CRUZ BIOTECHNOLOGY, INC.

eIF2Bγ (F-7): sc-514230

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 eIF2Bα, eIF2Bβ, eIF2Bγ, eIF2Bδ, and eIF2Bε. 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 eIF2Bε 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 eIF2Bα subunit.

REFERENCES

1. Henderson, R.A., et al. 1994. The δ-subunit of murine guanine nucleotide exchange factor eIF-2B. Characterization of cDNAs predicts isoforms differing at the amino-terminal end. J. Biol. Chem. 269: 30517-30523.
2. 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.
3. 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.
4. 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.

CHROMOSOMAL LOCATION

Genetic locus: EIF2B3 (human) mapping to 1p34.1; Eif2b3 (mouse) mapping to 4 D1.

SOURCE

eIF2Bγ (F-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 8-30 near the N-terminus of eIF2Bγ of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

eIF2Bγ (F-7) is available conjugated to agarose (sc-514230 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-514230 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514230 PE), fluorescein (sc-514230 FITC), Alexa Fluor® 488 (sc-514230 AF488), Alexa Fluor® 546 (sc-514230 AF546), Alexa Fluor® 594 (sc-514230 AF594) or Alexa Fluor® 647 (sc-514230 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514230 AF680) or Alexa Fluor® 790 (sc-514230 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514230 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

eIF2Bγ (F-7) is recommended for detection of eIF2Bγ of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 eIF2Bγ siRNA (h): sc-35274, eIF2Bγ siRNA (m): sc-35275, eIF2Bγ shRNA Plasmid (h): sc-35274-SH, eIF2Bγ shRNA Plasmid (m): sc-35275-SH, eIF2Bγ shRNA (h) Lentiviral Particles: sc-35274-V and eIF2Bγ shRNA (m) Lentiviral Particles: sc-35275-V.

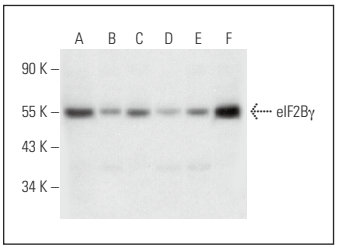
Molecular Weight of eIF2Bγ: 56 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 whole cell lysate: sc-2203 or HL-60 whole cell lysate: sc-2209.

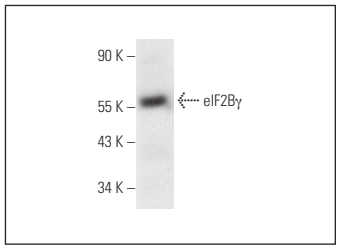
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) 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, 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-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



eIF2Bγ (F-7): sc-514230. Western blot analysis of eIF2Bγ expression in IMR-32 (**A**), HeLa (**B**) and K-562 (**C**) nuclear extracts and MCF7 (**D**), HeLa (**E**) and K-562 (**F**) whole cell lysates.



eIF2Bγ (F-7): sc-514230. Western blot analysis of eIF2Bγ expression in HL-60 whole cell lysate.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

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