SANTA CRUZ BIOTECHNOLOGY, INC.

eIF2Bγ (N-17): sc-31883

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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 was exhibited by the eIF2Bε 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

1. 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.
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.
5. 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.
6. Webb, B.L., et al. 1997. Eukaryotic initiation factor 2B (eIF2B). Int. J. Biochem. Cell Biol. 29: 1127-1131.

CHROMOSOMAL LOCATION

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

SOURCE

eIF2Bγ (N-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of eIF2Bγ of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-31883 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

eIF2Bγ (N-17) is recommended for detection of eIF2Bγ 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).

eIF2Bγ (N-17) is also recommended for detection of eIF2Bγ in additional species, including equine, canine, bovine, porcine and avian.

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.

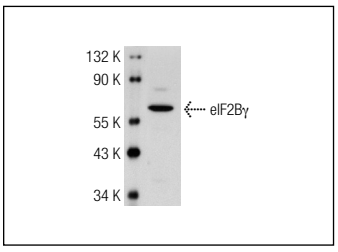
Molecular Weight of eIF2Bγ: 56 kDa.

Positive Controls: NIH/3T3 nuclear extract: sc-2138, K-562 nuclear extract: sc-2130 or HeLa nuclear extract: sc-2120.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



eIF2Bγ (N-17): sc-31883. Western blot analysis of eIF2Bγ expression in HeLa nuclear extract.

RESEARCH USE

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