

eIF2B α (C-20): sc-79936

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 is exhibited by the eIF2B ϵ 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 α subunit. Defects in the gene encoding eIF2B α are a cause of leukoencephalopathy with vanishing white matter (VWM), a brain disease that is characterized by head trauma and motor deterioration.

REFERENCES

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4. Ohlenbusch, A., et al. 2005. Identification of ten novel mutations in patients with eIF2B-related disorders. *Hum. Mutat.* 25: 411.
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6. Tirosh, S., et al. 2007. A role for eukaryotic translation initiation factor 2B (eIF2B) in taste memory consolidation and in thermal control establishment during the critical period for sensory development. *Dev. Neurobiol.* 67: 728-739.
7. Mohammad-Qureshi, S.S., et al. 2007. Critical contacts between the eukaryotic initiation factor 2B (eIF2B) catalytic domain and both eIF2 β and - γ mediate guanine nucleotide exchange. *Mol. Cell. Biol.* 27: 5225-5234.
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CHROMOSOMAL LOCATION

Genetic locus: EIF2B1 (human) mapping to 12q24.31; Eif2b1 (mouse) mapping to 5 F.

SOURCE

eIF2B α (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of eIF2B α of human origin.

STORAGE

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

PRODUCT

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

Blocking peptide available for competition studies, sc-79936 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

eIF2B α (C-20) is recommended for detection of eIF2B α of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

eIF2B α (C-20) is also recommended for detection of eIF2B α in additional species, including equine, canine and porcine.

Suitable for use as control antibody for eIF2B α siRNA (h): sc-77248, eIF2B α siRNA (m): sc-77249, eIF2B α shRNA Plasmid (h): sc-77248-SH, eIF2B α shRNA Plasmid (m): sc-77249-SH, eIF2B α shRNA (h) Lentiviral Particles: sc-77248-V and eIF2B α shRNA (m) Lentiviral Particles: sc-77249-V.

Molecular Weight of eIF2B α : 34 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203.

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) 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.

RESEARCH USE

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

PROTOCOLS

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

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Try **eIF2B α (C-11): sc-376846**, our highly recommended monoclonal alternative to eIF2B α (C-20).