

eIF2 β (h): 293 Lysate: sc-110792

BACKGROUND

The initiation of protein synthesis in eukaryotic cells is regulated by interactions between protein initiation factors and RNA molecules. The eukaryotic initiation complex eIF2 exists as a heterotrimeric complex of eIF2 α , eIF2 β and eIF2 γ . eIF2 functions in the early stages of protein synthesis, by forming a ternary complex with GTP and tRNA. This complex binds to the 40S ribosomal subunit, followed by mRNA binding to 40S to form the 43S preinitiation complex, the release of eIF2 from 40S, and the hydrolysis of GTP. Phosphorylation of eIF2 α correlates with inhibition of translation initiation.

REFERENCES

1. Trachsel, H. and Staehelin, T. 1978. Binding and release of eukaryotic initiation factor eIF2 and GTP during protein synthesis initiation. *Proc. Natl. Acad. Sci. USA* 75: 204-208.
2. Benne, R., Ames, H., Hershey, J.W. and Voorma, H.O. 1979. The activity of eukaryotic initiation factor eIF2 in ternary complex formation with GTP and Met-tRNA. *J. Biol. Chem.* 254: 3201-3205.
3. Ernst, H., Duncan, R.F. and Hershey, J.W. 1987. Cloning and sequencing of complementary DNAs encoding the α -subunit of translational initiation factor eIF2. Characterization of the protein and its messenger RNA. *J. Biol. Chem.* 262: 1206-1212.
4. Pathak, V.K., Nielsen, P.J., Trachsel, H. and Hershey, J.W. 1988. Structure of the β -subunit of translational initiation factor eIF2. *Cell* 54: 633-639.
5. Kaufman, R.J., Davies, M.V., Pathak, V.K. and Hershey, J.W. 1989. The phosphorylation state of eucaryotic initiation factor 2 alters translational efficiency of specific mRNAs. *Mol. Cell. Biol.* 9: 946-958.
6. Gaspar, N.J., Kinzy, T.G., Scherer, B.J., Humbelin, M., Hershey, J.W. and Merrick, W.C. 1994. Translation initiation factor eIF2. Cloning and expression of the human cDNA encoding the γ -subunit. *J. Biol. Chem.* 269: 3415-3422.

CHROMOSOMAL LOCATION

Genetic locus: EIF2S2 (human) mapping to 20q11.22.

PRODUCT

eIF2 β (h): 293 Lysate represents a lysate of human eIF2 β transfected 293 cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

RESEARCH USE

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

APPLICATIONS

eIF2 β (h): 293 Lysate is suitable as a Western Blotting positive control for human reactive eIF2 β antibodies. Recommended use: 10-20 μ l per lane.

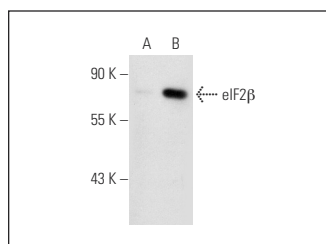
Control 293 Lysate: sc-110760 is available as a Western Blotting negative control lysate derived from non-transfected 293 cells.

eIF2 β (P-3): sc-9978 is recommended as a positive control antibody for Western Blot analysis of enhanced human eIF2 β expression in eIF2 β transfected 293 cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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.

DATA



eIF2 β (P-3): sc-9978. Western blot analysis of eIF2 β expression in non-transfected: sc-110760 (A) and human eIF2 β transfected: sc-110792 (B) 293 whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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