SANTA CRUZ BIOTECHNOLOGY, INC.

EF-1 δ (3J6): sc-130371



BACKGROUND

EF-1 (elongation factor-1) is a multi-protein complex that is comprised of α , β , γ and δ subunits, all of which work together to ensure the delivery of aminoacyl-tRNAs to the ribosome, thereby elongating mRNA. EF-1 δ , also known as EEF1D, is a 281 amino acid subunit of the EF-1 complex. Functioning as a guanine nucleotide exchange factor, EF-1 δ stimulates the exchange of EF-1 α -bound GDP for GTP. Additionally, EF-1 δ is thought to interact with HIV-1 Tat and may repress host-cell mRNA transcription. Overexpression of EF-1 δ is associated with oesophageal carcinoma and may adversely affect the outcome of medulloblastomas, suggesting that the role that EF-1 δ plays in transcriptional elongation is important for the tight control and regulation of the cell cycle. Multiple isoforms of EF-1 δ exist due to alternative splicing events.

REFERENCES

- Kawaguchi, Y., et al. 2003. Conserved protein kinases encoded by herpesviruses and cellular protein kinase Cdc2 target the same phosphorylation site in eukaryotic elongation factor 1δ. J. Virol. 77: 2359-2368.
- 2. Cans, C., et al. 2003. Translationally controlled tumor protein acts as a guanine nucleotide dissociation inhibitor on the translation elongation factor eEF1A. Proc. Natl. Acad. Sci. USA 100: 13892-13897.
- Kapp, L.D. and Lorsch, J.R. 2004. The molecular mechanics of eukaryotic translation. Annu. Rev. Biochem. 73: 657-704.
- Ogawa, K., et al. 2004. Clinical significance of elongation factor-1 δ mRNA expression in oesophageal carcinoma. Br. J. Cancer 91: 282-286.
- Brandenberger, R., et al. 2004. Transcriptome characterization elucidates signaling networks that control human ES cell growth and differentiation. Nat. Biotechnol. 22: 707-716.
- De Bortoli, M., et al. 2006. Medulloblastoma outcome is adversely associated with overexpression of EEF1D, RPL30, and RPS20 on the long arm of chromosome 8. BMC Cancer 6: 223.
- 7. Beranova-Giorgianni, S., et al. 2006. Phosphoproteomic analysis of the human pituitary. Pituitary 9: 109-120.
- 8. Yang, S., et al. 2007. BMP-6 promotes E-cadherin expression through repressing EF-1 δ in breast cancer cells. BMC Cancer 7: 211.
- Liao, J.Y., et al. 2008. A study on the fundamental factors determining the efficacy of siRNAs with high C/G contents. Cell. Mol. Biol. Lett. 13: 283-302.

CHROMOSOMAL LOCATION

Genetic locus: EEF1D (human) mapping to 8q24.3; Eef1d (mouse) mapping to 15 D3.

SOURCE

EF-1 δ (3J6) is a mouse monoclonal antibody raised against recombinant EF-1 δ of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 100 $\mu g\, lgG_{2a}$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

EF-1 δ (3J6) is recommended for detection of EF-1 δ of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for EF-1 δ siRNA (h): sc-77235, EF-1 δ siRNA (m): sc-77237, EF-1 δ shRNA Plasmid (h): sc-77235-SH, EF-1 δ shRNA Plasmid (m): sc-77237-SH, EF-1 δ shRNA (h) Lentiviral Particles: sc-77235-V and EF-1 δ shRNA (m) Lentiviral Particles: sc-77237-V.

Molecular Weight of EF-1 δ: 31 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, NTERA-2 cl.D1 whole cell lysate: sc-364181 or HeLa whole cell lysate: sc-2200.

RECOMMENDED SUPPORT REAGENTS

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

DATA



EF-1 δ (3J6): sc-130371. Western blot analysis of EF-1 δ expression in Hep G2 (A), NTERA-2 cl.D1 (B), HeLa (C) and HL-60 (D) whole cell lysates.

STORAGE

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

PROTOCOLS

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