SANTA CRUZ BIOTECHNOLOGY, INC.

EF-1 δ (G-7): sc-393797

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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

1. 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.
3. Kapp, L.D. and Lorsch, J.R. 2004. The molecular mechanics of eukaryotic translation. Annu. Rev. Biochem. 73: 657-704.
4. Ogawa, K., et al. 2004. Clinical significance of elongation factor-1δ mRNA expression in oesophageal carcinoma. Br. J. Cancer 91: 282-286.
5. Brandenberger, R., et al. 2004. Transcriptome characterization elucidates signaling networks that control human ES cell growth and differentiation. Nat. Biotechnol. 22: 707-716.
6. 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 δEF1 in breast cancer cells. BMC Cancer 7: 211.

CHROMOSOMAL LOCATION

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

SOURCE

EF-1 δ (G-7) is a mouse monoclonal antibody raised against amino acids 1-153 mapping at the N-terminus of EF-1 δ of human origin.

PRODUCT

Each vial contains 200 µg IgG_3 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. and 0.1% gelatin.

APPLICATIONS

EF-1 δ (G-7) is recommended for detection of EF-1 δ 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 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.

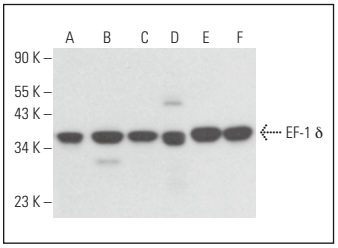
Molecular Weight of EF-1 δ: 31 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, A-10 cell lysate: sc-3806 or HeLa whole cell lysate: sc-2200.

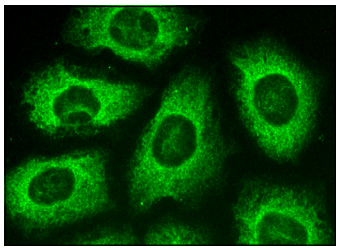
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-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



EF-1 δ (G-7): sc-393797. Western blot analysis of EF-1 δ expression in Hep G2 (**A**), HeLa (**B**), HL-60 (**C**), SP2/0 (**D**), A-10 (**E**) and RPE-J (**F**) whole cell lysates.



EF-1 δ (G-7): sc-393797. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Nordquist, E., et al. 2018. Postnatal and adult aortic heart valves have distinctive transcriptional profiles associated with valve tissue growth and maintenance respectively. Front. Cardiovasc. Med. 5: 30.

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.