SANTA CRUZ BIOTECHNOLOGY, INC.

EF-1 β siRNA (m): sc-77238

BACKGROUND

EF-1 (elongation factor-1) is a multi-protein complex that is responsible for the delivery of aminoacyl-tRNAs to the ribosome. The EF-1 protein complex is composed of four subunits: EF-1 α, EF-1 β, EF-1 δ and EF-1 γ. EF-1 β is a 225 amino acid member of the EF-1 β/EF-1 δ protein family and contains one GST C-terminal domain. Both EF-1 β and EF-1 δ stimulate the exchange of GDP bound to EF-1 α to GTP. Phosphorylation of EF-1 β affects the GDP/GTP exchange rate. Alternative splicing events of the gene that encodes EF-1 β result in three transcript variants that differ only in the 5' UTR.

REFERENCES

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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. Ito, T., et al. 2004. Solution structure of human initiation factor eIF2α reveals homology to the elongation factor eEF1B. Structure 12: 1693-1704.
4. McCracken, S., et al. 2005. Proteomic analysis of SRm160-containing complexes reveals a conserved association with cohesin. J. Biol. Chem. 280: 42227-42236.
5. Le Sourd, F., et al. 2006. eEF1B: at the dawn of the 21st century. Biochim. Biophys. Acta 1759: 13-31.
6. Le Sourd, F., et al. 2006. Cellular coexistence of two high molecular subsets of eEF1B complex. FEBS Lett. 580: 2755-2760.
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8. Mazan-Mamczarz, K., et al. 2006. Translational repression by RNA-binding protein TIAR. Mol. Cell. Biol. 26: 2716-2727.
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CHROMOSOMAL LOCATION

Genetic locus: Eef1b2 (mouse) mapping to 1 C2.

PRODUCT

EF-1 β siRNA (m) is a pool of 2 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see EF-1 β shRNA Plasmid (m): sc-77238-SH and EF-1 β shRNA (m) Lentiviral Particles: sc-77238-V as alternate gene silencing products.

For independent verification of EF-1 β (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-77238A and sc-77238B.

SSTORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

EF-1 β siRNA (m) is recommended for the inhibition of EF-1 β expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

GENE EXPRESSION MONITORING

EF-1 β (3A5): sc-517178 is recommended as a control antibody for monitoring of EF-1 β gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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) 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor EF-1 β gene expression knockdown using RT-PCR Primer: EF-1 β (m)-PR: sc-77238-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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

PROTOCOLS

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