SANTA CRUZ BIOTECHNOLOGY, INC.

EF-1 γ siRNA (h): sc-96325

BACKGROUND

EF-1 (elongation factor-1) is a multi-protein complex that is responsible for the delivery of aminoacyl-tRNAs to the ribosome. EF-1 γ (elongation factor 1-γ), also known as EEF1G or GIG35, is a 437 amino acid subunit of the EF-1 complex. Expressed in stomach, pancreas, brain, lung, kidney, intestine, liver and spleen, EF-1 γ contains an N-terminal glutathione transferase domain which is thought to be involved in anchoring the complex to various cellular components. Additionally, EF-1 γ may play a key role in the assembly of multiprotein complexes containing aminoacyl-tRNA synthetases. Increased expression of EF-1 γ is associated with pancreatic cancer, suggesting a possible role for EF-1 γ in the oncogenic transformation process.

REFERENCES

1. Sanders, J., et al. 1992. Elongation factor-1 messenger-RNA levels in cultured cells are high compared to tissue and are not drastically affected further by oncogenic transformation. Nucleic Acids Res. 20: 5907-5910.
2. Lew, Y., et al. 1992. Expression of elongation factor-1 γ-related sequence in human pancreatic cancer. Pancreas 7: 144-152.
3. Koonin, E.V., et al. 1994. Eukaryotic translation elongation factor 1 γ contains a glutathione transferase domain—study of a diverse, ancient protein superfamily using motif search and structural modeling. Protein Sci. 3: 2045-2054.
4. Wang, C.C., et al. 2004. Molecular hierarchy in neurons differentiated from mouse ES cells containing a single human chromosome 21. Biochem. Biophys. Res. Commun. 314: 335-350.
5. Yoon, S.Y., et al. 2006. Gene expression profiling of human HBV- and/or HCV-associated hepatocellular carcinoma cells using expressed sequence tags. Int. J. Oncol. 29: 315-327.
6. Corcoran, D., et al. 2007. Temporal expression of transcripts related to embryo quality in bovine embryos cultured from the two-cell to blastocyst stage *in vitro* or *in vivo*. Mol. Reprod. Dev. 74: 972-977.

CHROMOSOMAL LOCATION

Genetic locus: EEF1G (human) mapping to 11q12.3.

PRODUCT

EF-1 γ siRNA (h) is a pool of 3 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 γ shRNA Plasmid (h): sc-96325-SH and EF-1 γ shRNA (h) Lentiviral Particles: sc-96325-V as alternate gene silencing products.

For independent verification of EF-1 γ (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-96325A, sc-96325B and sc-96325C.

PROTOCOLS

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

STORAGE 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 γ siRNA (h) is recommended for the inhibition of EF-1 γ expression in human 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 γ (C-7): sc-393378 is recommended as a control antibody for monitoring of EF-1 γ 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 γ gene expression knockdown using RT-PCR Primer: EF-1 γ (h)-PR: sc-96325-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.