SANTA CRUZ BIOTECHNOLOGY, INC.

FTS siRNA (m): sc-145262

BACKGROUND

Fused toes protein homolog (FTS), also known as AKT-interacting protein (AKTIP) and Ft1, is a 292 amino acid protein that localizes to the cytoplasm and the cell membrane. A member of the ubiquitin-conjugating enzyme family, FTS binds directly to AKT1 to regulate apoptosis in a cell population. AKT1 is a protein that plays a critical role in a number of cellular responses, such as cell growth, protein synthesis, and antiapoptotic signaling. The interaction of FTS and AKT1 enhances the phosphorylation and activation of AKT1, which, through an AKT1/GSK-3β/NFATc1 signaling cascade, results in the increased production of the proapoptotic hormone Fas ligand and thus an increase in apoptosis.

REFERENCES

1. Lesche, R., et al. 1997. Ft1, a novel gene related to ubiquitin-conjugating enzymes, is deleted in the Fused toes mouse mutation. Mamm. Genome 8: 879-883.
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3. Wick, M.J., et al. 2000. Mechanism of phosphorylation of protein kinase B/Akt by a constitutively active 3-phosphoinositide-dependent protein kinase-1. J. Biol. Chem. 275: 40400-40406.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 608483. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Troussard, A.A., et al. 2003. Conditional knock-out of integrin-linked kinase demonstrates an essential role in protein kinase B/Akt activation. J. Biol. Chem. 278: 22374-22378.
6. Remy, I., et al. 2004. Regulation of apoptosis by the Ft1 protein, a new modulator of protein kinase B/Akt. Mol. Cell. Biol. 24: 1493-1504.
7. Anai, M., et al. 2005. A novel protein kinase B (PKB)/AKT-binding protein enhances PKB kinase activity and regulates DNA synthesis. J. Biol. Chem. 280: 18525-18535.

CHROMOSOMAL LOCATION

Genetic locus: Aktip (mouse) mapping to 8 C5.

PRODUCT

FTS 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 FTS shRNA Plasmid (m): sc-145262-SH and FTS shRNA (m) Lentiviral Particles: sc-145262-V as alternate gene silencing products.

For independent verification of FTS (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-145262A and sc-145262B.

RESEARCH USE

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

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

FTS siRNA (m) is recommended for the inhibition of FTS 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

FTS (K-14): sc-241467 is recommended as a control antibody for monitoring of FTS 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 (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor FTS gene expression knockdown using RT-PCR Primer: FTS (m)-PR: sc-145262-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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