SANTA CRUZ BIOTECHNOLOGY, INC.

XTP3TPA siRNA (h): sc-93076

BACKGROUND

XTP3-transactivated gene A protein (XTP3TPA), also known as RS21-C6, is a 170 amino acid protein. Existing as a homotetramer, XTP3TPA contains an epilepsy-associated repeat (EAR) domain. The EAR domain spans about 44 amino acid residues and is predicted to participate in protein-protein interactions, most likely involved in ligand recognition. XTP3TPA is expressed in embryonic and highly proliferating cells, especially in liver, kidney, ovary and testis, with particularly high expression in cancer cells. One of the identified functions of XTP3TPA is to hydrolyze abnormal nucleotide triphosphates (NTPs) in cancer cells that, if unregulated, could be incorporated into nascent DNA or RNA.

REFERENCES

1. Li, Y., et al. 2004. Prokaryotic expression, purification and preparation of polyclonal antibody and immunohistochemistry analysis of RS21-C6 molecule. Beijing Da Xue Xue Bao 36: 268-271.
2. Moroz, O.V., et al. 2005. Dimeric dUTPases, HisE, and MazG belong to a new superfamily of all-α NTP pyrophosphohydrolases with potential "house-cleaning" functions. J. Mol. Biol. 347: 243-255.
3. Kim, S.H., et al. 2005. Mitogenic estrogen metabolites alter the expression of 17β-estradiol-regulated proteins including heat shock proteins in human MCF-7 breast cancer cells. Mol. Cells 20 378-384.
4. Rual, J.F., et al. 2005. Towards a proteome-scale map of the human protein-protein interaction network. Nature 437: 1173-1178.
5. Lee, S.U., et al. 2006. Protein profiling and transcript expression levels of heat shock proteins in 17β-estradiol-treated human MCF-7 breast cancer cells. Cell Biol. Int. 30: 983-991.
6. Wu, B., et al. 2007. Crystal structure of RS21-C6, involved in nucleoside triphosphate pyrophosphohydrolysis. J. Mol. Biol. 367: 1405-1412.

CHROMOSOMAL LOCATION

Genetic locus: DCTPP1 (human) mapping to 16p11.2.

PRODUCT

XTP3TPA siRNA (h) 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 XTP3TPA shRNA Plasmid (h): sc-93076-SH and XTP3TPA shRNA (h) Lentiviral Particles: sc-93076-V as alternate gene silencing products.

For independent verification of XTP3TPA (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-93076A and sc-93076B.

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

XTP3TPA siRNA (h) is recommended for the inhibition of XTP3TPA 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

XTP3TPA (B-6): sc-398501 is recommended as a control antibody for monitoring of XTP3TPA 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 XTP3TPA gene expression knockdown using RT-PCR Primer: XTP3TPA (h)-PR: sc-93076-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.