SANTA CRUZ BIOTECHNOLOGY, INC.

Annexin A10 siRNA (m): sc-72504

BACKGROUND

The annexin family of calcium-binding proteins contains several family members that are characterized by a conserved core domain which binds phospholipids in a Ca^{2+}-dependent manner, and a unique amino-terminal region which may confer binding specificity. Annexin family members have been implicated as regulators of such diverse processes as ion flux, endocytosis, exocytosis and cellular adhesion. Annexin A10, also known as ANX14 or ANXA10, is a 324 amino acid protein that contains 4 annexin domains and may be involved in the regulation of cellular growth and signal transduction pathways throughout the cell. The gene encoding Annexin A10 maps to human chromosome 4, which encodes nearly 6% of the human genome and has the largest gene deserts (regions of the genome with no protein encoding genes) of all of the human chromosomes.

REFERENCES

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2. Morgan, R.O. and Fernández, M.P. 1997. Annexin gene structures and molecular evolutionary genetics. Cell. Mol. Life Sci. 53: 508-515.
3. Morgan, R.O., et al. 1999. Novel human and mouse Annexin A10 are linked to the genome duplications during early chordate evolution. Genomics 60: 40-49.
4. Liu, S.H., et al. 2002. Downregulation of Annexin A10 in hepatocellular carcinoma is associated with vascular invasion, early recurrence, and poor prognosis in synergy with p53 mutation. Am. J. Pathol. 160: 1831-1837.
5. Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 608008. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Peng, S.Y., et al. 2005. Aberrant expressions of Annexin A10 short isoform, osteopontin and α-fetoprotein at chromosome 4q cooperatively contribute to progression and poor prognosis of hepatocellular carcinoma. Int. J. Oncol. 26: 1053-1061.

CHROMOSOMAL LOCATION

Genetic locus: Anxa10 (mouse) mapping to 8 B3.1.

PRODUCT

Annexin A10 siRNA (m) 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 Annexin A10 shRNA Plasmid (m): sc-72504-SH and Annexin A10 shRNA (m) Lentiviral Particles: sc-72504-V as alternate gene silencing products.

For independent verification of Annexin A10 (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-72504A, sc-72504B and sc-72504C.

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

Annexin A10 siRNA (m) is recommended for the inhibition of Annexin A10 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

Annexin A10 (E-11): sc-398736 is recommended as a control antibody for monitoring of Annexin A10 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 Annexin A10 gene expression knockdown using RT-PCR Primer: Annexin A10 (m)-PR: sc-72504-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.