

Annexin V siRNA (h): sc-29686

BACKGROUND

The annexin family of calcium-binding proteins is composed of at least ten mammalian genes and is 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 and exocytosis, and cellular adhesion. For example, the crystal structure of Annexin III has suggested a hydrophilic amino-terminus with possible Ca^{2+} channel activity. Similarly, Annexin V has ion channel properties. Annexin IV, also referred to as endonexin, functions to regulate Cl^- -flux by mediating calmodulin kinase II (CaMKII) activity and Annexin V has been shown to regulate PKC activity. Annexin V is ubiquitously expressed at high levels in tissues and cells grown in tissue culture, while Annexin VIII exhibits a more limited distribution. Where co-expressed in the same tissues, Annexin VIII is often expressed at a 100-fold lower level than Annexin V. However, Annexin VIII is preferentially expressed in acute promyelocytic leukemia (APL) cells, which may relate to its role in hematopoietic cell differentiation.

CHROMOSOMAL LOCATION

Genetic locus: ANXA5 (human) mapping to 4q27.

PRODUCT

Annexin V 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Annexin V shRNA Plasmid (h): sc-29686-SH and Annexin V shRNA (h) Lentiviral Particles: sc-29686-V as alternate gene silencing products.

For independent verification of Annexin V (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-29686A, sc-29686B and sc-29686C.

STORAGE AND RESUSPENSION

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

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

APPLICATIONS

Annexin V siRNA (h) is recommended for the inhibition of Annexin V expression in human cells.

PROTOCOLS

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

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 μ M in 66 μ l. 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.

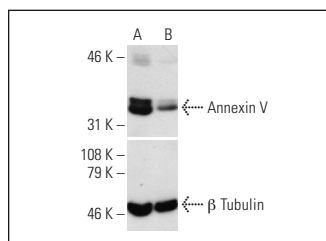
GENE EXPRESSION MONITORING

Annexin V (H-3): sc-74438 is recommended as a control antibody for monitoring of Annexin V 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Annexin V gene expression knockdown using RT-PCR Primer: Annexin V (h)-PR: sc-29686-PR (20 μ l, 346 bp). Annealing temperature for the primers should be $55-60^{\circ}C$ and the extension temperature should be $68-72^{\circ}C$.

DATA



Annexin V siRNA (h): sc-29686. Western blot analysis of Annexin V expression in non-transfected control (A) and Annexin V siRNA transfected (B) HeLa cells. Blot probed with Annexin V (FL-319): sc-8300. β Tubulin (D-10): sc-5274 used as specificity and loading control.

SELECT PRODUCT CITATIONS

1. Kheifets, V., et al. 2006. Protein kinase C δ (δ PKC)-Annexin V interaction: a required step in δ PKC translocation and function. *J. Biol. Chem.* 281: 23218-23226.
2. Trouve, P., et al. 2007. Annexin V is directly involved in cystic fibrosis transmembrane conductance regulator's chloride channel function. *Biochim. Biophys. Acta* 1772: 1121-1133.
3. Liu, S., et al. 2011. Transcriptional regulation of TMP21 by NFAT. *Mol. Neurodegener.* 6: 21.

RESEARCH USE

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