SANTA CRUZ BIOTECHNOLOGY, INC.

Annexin VI siRNA (m): sc-29689

BACKGROUND

The annexin family of calcium-binding proteins is composed of at least ten mammalian genes. It is characterized by a conserved core domain, which binds to phospholipids in a Ca^{2+}-dependent manner, and a unique amino terminal region, which may confer binding specificity. The Annexin family has been implicated as regulators of such diverse processes as ion-flux, endocytosis and exocytosis, and cellular adhesion. When overexpressed in A-431 cells, Annexin VI causes a partial reversal of the transformed phenotype. It has been hypothesized that growth-dependent posttranslational modifications of Annexins are required for proper sub-cellular localization. Annexin VII, also referred to as synexin, is located at the plasma membrane in normal muscle tissue. However, in muscle samples from patients suffering from Duchenne's muscular dystrophy, Annexin VII, along with Annexins IV and VI, is released into the cytoplasm and later, as the disease progresses, into the extracellular space. Two forms of Annexin XI, designated A and B, have been identified. Transfection of COS-7 cells with Annexin XI-A, but not Annexin XI-B, causes formation of Annexin XI-associated vesicles.

REFERENCES

1. Smith, P.D. and Moss, S.E. 1994. Structural evolution of the Annexin supergene family. Trends Genet. 10: 241-246.
2. Edwards, H.C. and Moss, S.E. 1995. Functional and genetic analysis of Annexin VI. Mol. Cell. Biochem. 149-150: 293-299.
3. Waisman, D.M. 1995. Annexin II tetramer: structure and function. Mol. Cell. Biochem. 149-150: 301-322.
4. Mailliard, W.S., et al. 1996. Calcium-dependent binding of S-100C to the N-terminal domain of Annexin I. J. Biol. Chem. 271: 719-725.

CHROMOSOMAL LOCATION

Genetic locus: Anxa6 (mouse) mapping to 11 B1.3.

PRODUCT

Annexin VI 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 VI shRNA Plasmid (m): sc-29689-SH and Annexin VI shRNA (m) Lentiviral Particles: sc-29689-V as alternate gene silencing products.

For independent verification of Annexin VI (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-29689A, sc-29689B and sc-29689C.

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 VI siRNA (m) is recommended for the inhibition of Annexin VI 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 VI (E-5): sc-271859 is recommended as a control antibody for monitoring of Annexin VI 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 VI gene expression knockdown using RT-PCR Primer: Annexin VI (m)-PR: sc-29689-PR (20 µl, 428 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. García-Melero, A., et al. 2016. Annexin A6 and late endosomal cholesterol modulate integrin recycling and cell migration. J. Biol. Chem. 291: 1320-1335.
2. Meneses-Salas, E., et al. 2020. Annexin A6 modulates TBC1D15/Rab7/StARD3 axis to control endosomal cholesterol export in NPC1 cells. Cell. Mol. Life Sci. 77: 2839-2857.

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.