



# Annexin III siRNA (h): sc-89288

## 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  $\text{Ca}^{2+}$ -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 III, also known as ANXA3, Annexin A3, Lipocortin III, PAP-III (placental anticoagulant protein III), 35- $\alpha$  calcimedin or ANX3, belongs to the Annexin family and contains four Annexin repeats. Annexin III exhibits a variety of functions, including anticoagulant properties, an inhibitory role towards phospholipase  $\text{A}_2$  ( $\text{PLA}_2$ ) and an enzymatic function, cleaving the cyclic bond of inositol 1,2-cyclic phosphate to produce inositol 1-phosphate.

## REFERENCES

1. Tait, J.F., et al. 1991. Chromosomal localization of the human Annexin III (ANX3) gene. *Genomics* 10: 441-448.
2. Tait, J.F., et al. 1993. Structure and polymorphisms of the human Annexin III (ANX3) gene. *Genomics* 18: 79-86.
3. Bödeker, H., et al. 1999. PAP I interacts with itself, PAP II, PAP III, and lithostathine/regla. *Mol. Cell Biol. Res. Commun.* 2: 150-154.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 106490. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Park, J.E., et al. 2005. Annexin A3 is a potential angiogenic mediator. *Biochem. Biophys. Res. Commun.* 337: 1283-1287.

## CHROMOSOMAL LOCATION

Genetic locus: ANXA3 (human) mapping to 4q21.21.

## PRODUCT

Annexin III 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  $\mu\text{M}$  solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Annexin III shRNA Plasmid (h): sc-89288-SH and Annexin III shRNA (h) Lentiviral Particles: sc-89288-V as alternate gene silencing products.

For independent verification of Annexin III (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-89288A, sc-89288B and sc-89288C.

## STORAGE AND RESUSPENSION

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

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

## APPLICATIONS

Annexin III siRNA (h) is recommended for the inhibition of Annexin III 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  $\mu\text{M}$  in 66  $\mu\text{l}$ . 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 III (G-1): sc-390700 is recommended as a control antibody for monitoring of Annexin III 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-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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 III gene expression knockdown using RT-PCR Primer: Annexin III (h)-PR: sc-89288-PR (20  $\mu\text{l}$ ). Annealing temperature for the primers should be  $55-60^\circ\text{C}$  and the extension temperature should be  $68-72^\circ\text{C}$ .

## SELECT PRODUCT CITATIONS

1. Kim, J.Y., et al. 2018. Tumor-suppressing effect of silencing of Annexin A3 expression in breast cancer. *Clin. Breast Cancer* 18: e713-e719.
2. Kim, J.Y., et al. 2023. MiR-221 and miR-222 regulate cell cycle progression and affect chemosensitivity in breast cancer by targeting ANXA3. *Exp. Ther. Med.* 25: 127.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.