SANTA CRUZ BIOTECHNOLOGY, INC.

Annexin A13 siRNA (m): sc-60173

BACKGROUND

The Annexins constitute a family of structurally-related, relatively abundant proteins that exhibit Ca^{2+}-dependent binding to phospholipids. Annexins function in multiple aspects of cell biology including regulation of membrane trafficking, transmembrane channel activity, inhibition of phospholipase A_2, inhibition of coagulation and mediation of cell-matrix interactions. Annexin A13 is considered the original progenitor of the 12 members of vertebrate Annexins. The expression of Annexin A13 is highly tissue-specific, being expressed only in intestinal and kidney epithelial cells. This expression is associated with a highly differentiated intracellular transport function. Two alternative splicing isoforms of Annexin A13 exist, both of which bind to rafts.

REFERENCES

1. Smith, P.D., et al. 1994. Structural evolution of the Annexin supergene family. Trends Genet. 10: 241-246.
2. Mailliard, W.S., et al. 1996. Calcium-dependent binding of S100C to the N-terminal domain of Annexin I. J. Biol. Chem. 271: 719-725.
3. Waisman, D.M. 1996. Annexin II tetramer: structure and function. Mol. Cell. Biochem. 149-150: 301-322.
4. Iglesias, J.M., et al. 2002. Comparative genetics and evolution of Annexin A13 as the founder gene of vertebrate annexins. Mol. Biol. Evol. 19: 608-618.
5. Morgan, R.O., et al. 2004. Evolutionary perspective on Annexin calcium-binding domains. Biochim. Biophys. Acta 1742: 133-140.
6. Turnay, J., et al. 2005. Structure-function relationship in Annexin A13, the founder member of the vertebrate family of Annexins. Biochem. J. 389: 899-911.

CHROMOSOMAL LOCATION

Genetic locus: Anxa13 (mouse) mapping to 15 D1.

PRODUCT

Annexin A13 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 A13 shRNA Plasmid (m): sc-60173-SH and Annexin A13 shRNA (m) Lentiviral Particles: sc-60173-V as alternate gene silencing products.

For independent verification of Annexin A13 (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-60173A, sc-60173B and sc-60173C.

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.

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 A13 siRNA (m) is recommended for the inhibition of Annexin A13 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 A13 (H-1): sc-377327 is recommended as a control antibody for monitoring of Annexin A13 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 A13 gene expression knockdown using RT-PCR Primer: Annexin A13 (m)-PR: sc-60173-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.