SANTA CRUZ BIOTECHNOLOGY, INC.

Amylin siRNA (m): sc-39276

BACKGROUND

Adrenomedullin (AM), α- and β-calcitonin gene-related peptide (CGRP), Calcitonin (CT) and Amylin are homologous polypeptides with overlapping biological actions such as vasodilatation and inhibition of bone resorption. Amylin (islet/insulinoma amyloid polypeptide or IAPP) is a 37 amino acid monomeric polypeptide isolated from pancreatic amyloid. Amylin is a major component of amyloid-rich pancreatic extracts of three type 2 diabetic patients. Amylin has cysteine residues in positions 2 and 7, a feature found in all known calcitonin gene-related peptides. Amylin shows 46% amino acid sequence homology with CGRP II. Since Amylin has been demonstrated immunochemically in normal β cells of several mammals, it probably has an important role in respect to pancreatic islet function. The gene which encodes Amylin maps to human chromosome 12p12.1.

REFERENCES

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2. Hoovers, J.M., et al. 1993. High-resolution chromosomal localization of the human Calcitonin/CGRP/IAPP gene family members. Genomics 15: 525-529.
3. Born, W., et al. 2002. Functional interaction of G protein-coupled receptors of the adrenomedullin peptide family with accessory receptor-activity-modifying proteins (RAMP). Microsc. Res. Tech. 57: 14-22.
4. Tomita, T. 2003. Amylin in human pancreatic islets. Pathology 35: 34-36.
5. Zhang, S., et al. 2003. Fibrillogenic Amylin evokes islet β-cell apoptosis through linked activation of a caspase cascade and JNK1. J. Biol. Chem. 278: 52810-52819.
6. Green, J.D., et al. 2004. Human Amylin oligomer growth and fibril elongation define two distinct phases in amyloid formation. J. Biol. Chem. 279: 12206-12212.
7. Barth, S.W., et al. 2004. Peripheral amylin activates circumventricular organs expressing calcitonin receptor a/b subtypes and receptor-activity modifying proteins in the rat. Brain Res. 997: 97-102.
8. Dacquin, R., et al. 2004. Amylin inhibits bone resorption while the calcitonin receptor controls bone formation *in vivo*. J. Cell Biol. 164: 509-514.
9. Kajava, A.V., et al. 2005. The parallel superpleated β-structure as a model for amyloid fibrils of human amylin. J. Mol. Biol. 348: 247-252.

CHROMOSOMAL LOCATION

Genetic locus: Iapp (mouse) mapping to 6 G2.

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.

PRODUCT

Amylin 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 Amylin shRNA Plasmid (m): sc-39276-SH and Amylin shRNA (m) Lentiviral Particles: sc-39276-V as alternate gene silencing products.

For independent verification of Amylin (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-39276A, sc-39276B and sc-39276C.

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

Amylin siRNA (m) is recommended for the inhibition of Amylin 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

Amylin (R10/99): sc-57026 is recommended as a control antibody for monitoring of Amylin 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 Amylin gene expression knockdown using RT-PCR Primer: Amylin (m)-PR: sc-39276-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.