SANTA CRUZ BIOTECHNOLOGY, INC.

Amylase siRNA (h): sc-29675

BACKGROUND

The three types of Amylase found in human and mouse tissues are salivary, pancreatic and ovarian tumor. In humans there are two haplotypes consisting of very different numbers of salivary Amylase proteins. The short haplotype contains two pancreatic proteins, AMY2A and AMY2B and one salivary Amylase protein, AMY1C. The long haplotype consists of two salivary Amylase proteins, AMY1A and AMY1B. In mice, there are two apparently identical copies of AMY2A which specify pancreatic Amylase. The single copy of AMY1A is expressed in a tissue specific fashion in the salivary gland and the liver.

REFERENCES

1. Takeuchi, T., et al. 1981. Characterization of Amylases produced by tumors. Clin. Chem. 27: 556-559.
2. Schibler, U., et al. 1982. Tissue specific expression of mouse α-amylase genes. Adv. Exp. Med. Biol. 158: 381-385.
3. Zakowski, J.J., et al. 1984. Amylase from human serous ovarian tumors: purification and characterization. Clin. Chem. 30: 62-68.
4. Brophy, C.M., et al. 1989. "Pseudoascites" secondary to an amylase-producing serous ovarian cystadenoma. A case study. J. Clin. Gastroenterol. 11: 703-706.
5. Groot, P.C., et al. 1989. The human α-amylase multigene family consists of haplotypes with variable numbers of genes. Genomics 5: 29-42.
6. Cotta, M.A., et al. 1993. Regulation and cloning of the gene encoding amylase activity of the ruminal bacterium *Streptococcus bovis.* Appl. Environ. Microbiol. 59: 189-196.

CHROMOSOMAL LOCATION

Genetic locus: AMY1A/AMY2A/AMY2B (human) mapping to 1p21.1.

PRODUCT

Amylase 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Amylase shRNA Plasmid (h): sc-29675-SH and Amylase shRNA (h) Lentiviral Particles: sc-29675-V as alternate gene silencing products.

For independent verification of Amylase (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-29675A, sc-29675B and sc-29675C.

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

Amylase siRNA (h) is recommended for the inhibition of Amylase 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 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

Amylase (G-10): sc-46657 is recommended as a control antibody for monitoring of Amylase 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 Amylase gene expression knockdown using RT-PCR Primer: Amylase (h)-PR: sc-29675-PR (20 µl, 354 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Date, K., et al. 2019. α-Amylase expressed in human small intestinal epithelial cells is essential for cell proliferation and differentiation. J. Cell. Biochem. 121: 1238-1249.

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.