

Elastase-3A siRNA (h): sc-88377

BACKGROUND

Elastases belong to a subfamily of serine proteases that function to catalytically hydrolyze a wide variety of proteins. Elastase-3A, also known as ELA3A or ELA3, is a 270 amino acid protein that belongs to the Elastase family and acts as an alanine-specific protease. Secreted as a zymogen from the pancreas, Elastase-3A functions as a digestive enzyme in the intestine that participates in metabolic degradation pathways by preferentially cleaving proteins that have alanine residues. In addition, Elastase-3A is thought to play a role in the metabolism and transport of cholesterol molecules in the intestine. Altered expression of Elastase-3A may be associated with pancreatic ductal carcinoma, a highly fatal cancer of the pancreatic ducts.

REFERENCES

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2. Tani, T., Ohsumi, J., Mita, K. and Takiguchi, Y. 1988. Identification of a novel class of elastase isozyme, human pancreatic elastase III, by cDNA and genomic gene cloning. *J. Biol. Chem.* 263: 1231-1239.
3. Shimada, S., Yamaguchi, K., Takahashi, M. and Ogawa, M. 2002. Pancreatic elastase IIIA and its variants are expressed in pancreatic carcinoma cells. *Int. J. Mol. Med.* 10: 599-603.
4. Nemoda, Z. and Sahin-Tóth, M. 2006. Chymotrypsin C (caldecrin) stimulates autoactivation of human cationic trypsinogen. *J. Biol. Chem.* 281: 11879-11886.
5. Lowe, A.W., Olsen, M., Hao, Y., Lee, S.P., Taek Lee, K., Chen, X., van de Rij, M. and Brown, P.O. 2007. Gene expression patterns in pancreatic tumors, cells and tissues. *PLoS ONE* 2: e323.

CHROMOSOMAL LOCATION

Genetic locus: CELA3A (human) mapping to 1p36.12.

PRODUCT

Elastase-3A siRNA (h) is a pool of 2 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Elastase-3A shRNA Plasmid (h): sc-88377-SH and Elastase-3A shRNA (h) Lentiviral Particles: sc-88377-V as alternate gene silencing products.

For independent verification of Elastase-3A (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-88377A and sc-88377B.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Elastase-3A siRNA (h) is recommended for the inhibition of Elastase-3A 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 μ M in 66 μ 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

Elastase-3A (14-3): sc-100527 is recommended as a control antibody for monitoring of Elastase-3A 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 κ BP-HRP: sc-516102 or m-IgG κ 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 κ BP-FITC: sc-516140 or m-IgG κ 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 Elastase-3A gene expression knockdown using RT-PCR Primer: Elastase-3A (h)-PR: sc-88377-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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