SANTA CRUZ BIOTECHNOLOGY, INC.

Elastase-2 siRNA (h): sc-77257

BACKGROUND

Elastase-2, also known as Elastase-2A, CELA2A (chymotrypsin-like elastase family, member 2A) or ELA2A, is a 269 amino acid secreted protein that belongs to the peptidase S1 family and contains one peptidase S1 domain. Expressed in pancreatic tissue, Elastase-2 interacts with CPA1 and catalyzes the hydrolysis of elastin, specifically cleaving the Leu-|-Xaa, Met-|-Xaa and Phe-|-Xaa residues within elastin. Elastase-2B, like Elastase-2, is a 269 amino acid protein that catalyzes the hydrolysis of elastin. The genes encoding Elastase-2 and Elastase-2B map to human chromosome 1, which spans 260 million base pairs, contains over 3,000 genes and comprises nearly 8% of the human genome. Chromosome 1 houses a large number of disease-associated genes, including those that are involved in familial adenomatous polyposis, Stickler syndrome, Parkinson's disease, Gaucher disease, schizophrenia and Usher syndrome. Aberrations in chromosome 1 are found in a variety of cancers, including head and neck cancer, malignant melanoma and multiple myeloma.

REFERENCES

1. Fletcher, T.S., et al. 1987. Primary structure of human pancreatic elastase 2 determined by sequence analysis of the cloned mRNA. Biochemistry 26: 7256-7261.
2. Kawashima, I., et al. 1987. Characterization of pancreatic elastase II cDNAs: two elastase II mRNAs are expressed in human pancreas. DNA 6: 163-172.
3. Moulard, M., et al. 1990. Further studies on the human pancreatic binary complexes involving procarboxypeptidase A. FEBS Lett. 261: 179-183.
4. Online Mendelian Inheritance in Man, OMIM™. 2005. Johns Hopkins University, Baltimore, MD. MIM Number: 609443. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Lausen, J., et al. 2006. ELA2 is regulated by hematopoietic transcription factors, but not repressed by AML1-ETO. Oncogene 25: 1349-1357.
7. Szepessy, E., et al. 2006. Inactivity of recombinant ELA2B provides a new example of evolutionary elastase silencing in humans. Pancreatology 6: 117-122.

CHROMOSOMAL LOCATION

Genetic locus: CELA2A (human) mapping to 1p36.21.

PRODUCT

Elastase-2 siRNA (h) is a target-specific 19-25 nt siRNA 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 Elastase-2 shRNA Plasmid (h): sc-77257-SH and Elastase-2 shRNA (h) Lentiviral Particles: sc-77257-V as alternate gene silencing products.

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

Elastase-2 siRNA (h) is recommended for the inhibition of Elastase-2 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Elastase-2 gene expression knockdown using RT-PCR Primer: Elastase-2 (h)-PR: sc-77257-PR (20 µl). 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.