SANTA CRUZ BIOTECHNOLOGY, INC.

Enterokinase siRNA (h): sc-72233

BACKGROUND

Enterokinase, also known as enteropeptidase or serine protease 7, belongs to the peptidase S_1 family and localizes to the intestinal brush border in the proximal small intestine. It exists as a heterodimer of a catalytic light chain (LC) and a non-catalytic heavy chain (HC) linked together by a disulfide bond. Enterokinase HC plays a role in macromolecular substrate recognition and specificity. Duodenase is the serine protease responsible for the release and activation of Enterokinase from its inactive precursor. Active Enterokinase recognizes the target sequence, Asp-Asp-Asp-Asp-Lys, and is responsible for catalyzing the conversion of pancreatic trypsinogen to activated Trypsin. Activated Trypsin then further activates digestive enzymes such as Chymotrypsin, carboxypeptidases, elastases and lipases, releasing them from their inactive precursors. Enterokinase is important for proper digestion of proteins. Improper functioning of Enterokinase may result in congenital enteropeptidase deficiency. This recessively inherited disorder leads to severe protein malabsorption and can result in low serum protein, chronic diarrhea and, in infants, a failure to thrive.

REFERENCES

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5. Lu, D., et al. 1998. Bovine proenteropeptidase is activated by trypsin, and the specificity of enteropeptidase depends on the heavy chain. J. Biol. Chem. 272: 31293-31300.
6. Zamolodchikova, T.S., et al. 2000. Activation of recombinant proenteropeptidase by duodenase. FEBS Lett. 466: 295-299.
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8. Song, H.W., et al. 2002. Engineered recombinant enteropeptidase catalytic subunit: effect of N-terminal modification. Arch. Biochem. Biophys. 400: 1-6.
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CHROMOSOMAL LOCATION

Genetic locus: PRSS7 (human) mapping to 21q21.1.

RESEARCH USE

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

PRODUCT

Enterokinase 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 Enterokinase shRNA Plasmid (h): sc-72233-SH and Enterokinase shRNA (h) Lentiviral Particles: sc-72233-V as alternate gene silencing products.

For independent verification of Enterokinase (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-72233A, sc-72233B and sc-72233C.

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

Enterokinase siRNA (h) is recommended for the inhibition of Enterokinase 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 Enterokinase gene expression knockdown using RT-PCR Primer: Enterokinase (h)-PR: sc-72233-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.