SANTA CRUZ BIOTECHNOLOGY, INC.

β-defensin 3 siRNA (m): sc-40483

BACKGROUND

β-defensins (also designated BDs) are small, developmentally regulated cationic peptides that are produced in mucosal epithelia and possesses broad-spectrum antimicrobial activity. β-defensins are involved in the resistance of epithelial surfaces (such as airway surface fluid) to microbial colonization. β-defensin 3, also known as Defb3 or mBD-3, is a 63 amino acid secreted mouse protein that belongs to the β-defensin family. Highly expressed in pancreas, ovary, epididymis and salivary glands with lower expression in brain, lung and liver, β-defensin 3 functions as an antimicrobial protein that exhibits activity against Gram-negative bacteria, such as *E. coli* and *P. aeruginosa*. Via its antimicrobial activity, β-defensin 3 plays an important role in host defense mechanisms at mucosal surfaces.

REFERENCES

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5. Morrison, G.M., Davidson, D.J. and Dorin, J.R. 1999. A novel mouse β-defensin, Defb2, which is upregulated in the airways by lipopolysaccharides. FEBS Lett. 442: 112-116.
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CHROMOSOMAL LOCATION

Genetic locus: Defb3 (mouse) mapping to 8 A1.3.

PRODUCT

β-defensin 3 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 β-defensin 3 shRNA Plasmid (m): sc-40483-SH and β-defensin 3 shRNA (m) Lentiviral Particles: sc-40483-V as alternate gene silencing products.

For independent verification of β-defensin 3 (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-40483A, sc-40483B and sc-40483C.

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

β-defensin 3 siRNA (m) is recommended for the inhibition of β-defensin 3 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.

SELECT PRODUCT CITATIONS

1. Wu, Y., et al. 2018. β-defensin 2 and 3 promote bacterial clearance of pseudomonas aeruginosa by inhibiting macrophage autophagy through downregulation of early growth response gene-1 and c-FOS. Front. Immunol. 9: 211.

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.