SANTA CRUZ BIOTECHNOLOGY, INC.

BPIL2 siRNA (h): sc-72659

BACKGROUND

Members of the bactericidal/permeability-increasing protein family have antimicrobial properties and bind lipophilic substances, therefore targeting gram-negative bacteria. The bactericidal permeability increasing protein (BPI) is an antibacterial and endotoxin-neutralizing molecule that is abundant in the granules of polymorphonuclear leukocytes (neutrophil granules). Sharing structural and sequence homologies with BPI, BPIL2 (bactericidal/permeability-increasing protein-like 2) is a 507 amino acid secreted protein that contains the family's common conserved feature of two cysteine residues that are critical for protein function. While BPIL2 is expressed in the basal layer of inflamed epidermis from psoriasis patients, it is not detected in normal skin.

REFERENCES

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2. Mulero, J.J., et al. 2002. Three new human members of the lipid transfer/lipopolysaccharide binding protein family (LT/LBP). Immunogenetics 54: 293-300.
3. Beamer, L.J. 2003. Structure of human BPI (bactericidal/permeability-increasing protein) and implications for related proteins. Biochem. Soc. Trans. 31: 791-794.
4. Andrault, J.B., et al. 2003. Expansion of the BPI family by duplication on human chromosome 20: characterization of the RY gene cluster in 20q11.21 encoding olfactory transporters/antimicrobial-like peptides. Genomics 82: 172-184.
5. Xu, P., et al. 2005. Characterization and expression analysis of bactericidal permeability-increasing protein (BPI) antimicrobial peptide gene from channel catfish Ictalurus punctatus. Dev. Comp. Immunol. 29: 865-878.
6. Wheeler, T.T., et al. 2007. Expansion of the bactericidal/permeability increasing-like (BPI-like) protein locus in cattle. BMC Genomics 8: 75.
7. Suhr, M.L., et al. 2007. Gene expression profile of oral squamous cell carcinomas from Sri Lankan betel quid users. Oncol. Rep. 18: 1061-1075.

CHROMOSOMAL LOCATION

Genetic locus: BPIFC (human) mapping to 22q12.3.

PRODUCT

BPIL2 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 BPIL2 shRNA Plasmid (h): sc-72659-SH and BPIL2 shRNA (h) Lentiviral Particles: sc-72659-V as alternate gene silencing products.

For independent verification of BPIL2 (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-72659A, sc-72659B and sc-72659C.

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

BPIL2 siRNA (h) is recommended for the inhibition of BPIL2 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 BPIL2 gene expression knockdown using RT-PCR Primer: BPIL2 (h)-PR: sc-72659-PR (20 µl, 595 bp). 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.

PROTOCOLS

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