SANTA CRUZ BIOTECHNOLOGY, INC.

gasdermin A3 siRNA (m): sc-145336

BACKGROUND

Gasdermin A3, also known as Gsdma3, is a 464 amino acid murine protein that belongs to the gasdermin family and is expressed during early development and throughout adulthood. Present at high levels in skin and at lower levels in testis and placenta, gasdermin A3 plays a role in hair follicle morphogenesis, specifically participating in the transition from catagen to telogen at the end of hair follicles. Defects in the gene encoding gasdermin A3 are the cause of a number of dominant hair loss alopecia phenotypes, including bareskin (Bsk), defolliculated (Dfl), finnegan (Fgn), reduced coat 2 (Rco2) and Rex-denuded (Re-den).

REFERENCES

1. Shiraishi, A., et al. 1998. Characterization of Bsk mice: I. The Bsk mutation does not involve a recombination of cornea-specific keratin 12 and skin-specific hair keratin genes. Curr. Eye Res. 17: 531-540.
2. Sato, H., et al. 1998. A new mutation Rim3 resembling Re(den) is mapped close to retinoic acid receptor α (Rara) gene on mouse chromosome 11. Mamm. Genome 9: 20-25.
3. Sato, H., et al. 1999. The genomic organization of type I keratin genes in mice. Genomics 56: 303-309.
4. Porter, R.M., et al. 2002. Defolliculated (dfl): a dominant mouse mutation leading to poor sebaceous gland differentiation and total elimination of pelage follicles. J. Invest. Dermatol. 119: 32-37.
5. Runkel, F., et al. 2004. The dominant alopecia phenotypes Bareskin, Rex-denuded, and Reduced Coat 2 are caused by mutations in gasdermin 3. Genomics 84: 824-835.
6. Lunny, D.P., et al. 2005. Mutations in gasdermin 3 cause aberrant differentiation of the hair follicle and sebaceous gland. J. Invest. Dermatol. 124: 615-621.
7. Tanaka, S., et al. 2007. A new Gsdma3 mutation affecting anagen phase of first hair cycle. Biochem. Biophys. Res. Commun. 359: 902-907.
8. Tamura, M., et al. 2007. Members of a novel gene family, Gsdm, are expressed exclusively in the epithelium of the skin and gastrointestinal tract in a highly tissue-specific manner. Genomics 89: 618-629.

CHROMOSOMAL LOCATION

Genetic locus: Gsdma3 (mouse) mapping to 11 D.

PRODUCT

gasdermin A3 siRNA (m) 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see gasdermin A3 shRNA Plasmid (m): sc-145336-SH and gasdermin A3 shRNA (m) Lentiviral Particles: sc-145336-V as alternate gene silencing products.

For independent verification of gasdermin A3 (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-145336A and sc-145336B.

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

gasdermin A3 siRNA (m) is recommended for the inhibition of gasdermin A3 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor gasdermin A3 gene expression knockdown using RT-PCR Primer: gasdermin A3 (m)-PR: sc-145336-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.

PROTOCOLS

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