SANTA CRUZ BIOTECHNOLOGY, INC.

BRINP3 siRNA (h): sc-88341

BACKGROUND

BRINP3, also known as DBCCR1L, DBCCR1L1 (DBCCR1-like protein 1) or FAM5C, is a 766 amino acid secreted protein that belongs to the FAM5 family and has been shown to contributes to aggressive periodontitis. A potential novel tumor suppressor gene in tongue squamous cell carcinoma, BRINP3 is encoded by a gene that maps to human chromosome 1q31.1. Chromosome 1 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

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2. Bowling, E.L., et al. 2000. The Stickler syndrome: case reports and literature review. Optometry 71: 177-182.
3. Plasilova, M., et al. 2004. Exclusion of an extracolonic disease modifier locus on chromosome 1p33-36 in a large Swiss familial adenomatous polyposis kindred. Eur. J. Hum. Genet. 12: 365-371.
4. Oliveira, S.A., et al. 2005. Identification of risk and age-at-onset genes on chromosome 1p in Parkinson disease. Am. J. Hum. Genet. 77: 252-264.
5. Connelly, J.J., et al. 2008. Genetic and functional association of FAM5C with myocardial infarction. BMC Med. Genet. 9: 33.
6. Holliday, E.G., et al. 2009. Strong evidence for a novel schizophrenia risk locus on chromosome 1p31.1 in homogeneous pedigrees from Tamil Nadu, India. Am. J. Psychiatry 166: 206-215.
7. Kuroiwa, T., et al. 2009. Expression of the FAM5C in tongue squamous cell carcinoma. Oncol. Rep. 22: 1005-1011.
8. Carvalho, F.M., et al. 2010. FAM5C contributes to aggressive periodontitis. PLoS ONE 5: E10053.

CHROMOSOMAL LOCATION

Genetic locus: FAM5C (human) mapping to 1q31.1.

PRODUCT

BRINP3 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 BRINP3 shRNA Plasmid (h): sc-88341-SH and BRINP3 shRNA (h) Lentiviral Particles: sc-88341-V as alternate gene silencing products.

For independent verification of BRINP3 (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-88341A, sc-88341B and sc-88341C.

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

BRINP3 siRNA (h) is recommended for the inhibition of BRINP3 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 BRINP3 gene expression knockdown using RT-PCR Primer: BRINP3 (h)-PR: sc-88341-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Bao, L., et al. 2022. BDNF/Trk B confers bortezomib resistance in multiple myeloma by inducing BRINP3. Biochim. Biophys. Acta Gen. Subj. 1867: 130299.

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.