SANTA CRUZ BIOTECHNOLOGY, INC.

BRI3BP siRNA (h): sc-95884

BACKGROUND

BRI3BP (BRI3 binding protein), also known as BNAS1, HCCR-1, I3-binding protein or cervical cancer 1 proto-oncogene-binding protein KG19, is a 251 amino acid multi-pass membrane protein. Though widely expressed, BRI3BP is found at highest levels in brain, kidney and liver where it localizes to the endoplasmic reticulum (ER) and is involved in ER structural dynamics and mitochondrial viability. Possessing pro-apoptotic properties and the ability to potentiate drug-induced apoptosis, BRI3BP overexpression has been shown to enhance caspase-3 and mitochondrial cytochrome c release in etoposide-treated human embryonic kidney 293T cells. The gene encoding BRI3BP maps to human chromosome 12, which encodes over 1,100 genes and comprises approximately 4.5% of the human genome. Chromosome 12 is associated with a variety of diseases and afflictions, including hypochondrogenesis, achondrogenesis, Kniest dysplasia, Noonan syndrome and trisomy 12p, which causes facial developmental defects and seizure disorders.

REFERENCES

1. Delgado Carrasco, J., et al. 2001. Achondrogenesis type II-hypochondrogenesis: radiological features.Case report. An. Esp. Pediatr. 55: 553-557.
2. Lin, L., et al. 2001. Cloning, tissue expression pattern, and chromosome location of a novel human gene BRI3BP. Biochem. Genet. 39: 369-377.
3. Yokoyama, T., et al. 2003. A case of Kniest dysplasia with retinal detachment and the mutation analysis. Am. J. Ophthalmol. 136: 1186-1188.
4. Forzano, F., et al. 2007. A familial case of achondrogenesis type II caused by a dominant COL2A1 mutation and "patchy" expression in the mosaic father. Am. J. Med. Genet. A 143A: 2815-2820.
5. Yamazaki, T., et al. 2007. Augmentation of drug-induced cell death by ER protein BRI3BP. Biochem. Biophys. Res. Commun. 362: 971-975.
6. Wainwright, H., et al. 2008. Visceral manifestations of hypochondrogenesis. Virchows Arch. 453: 203-207.
7. Lo, F.S., et al. 2009. High resolution melting analysis for mutation detection for PTPN11 gene: applications of this method for diagnosis of Noonan syndrome. Clin. Chim. Acta 409: 75-77.
8. Benussi, D.G., et al. 2009. Trisomy 12p and monosomy 4p: phenotype-genotype correlation. Genet. Test. Mol. Biomarkers 13: 199-204.

CHROMOSOMAL LOCATION

Genetic locus: BRI3BP (human) mapping to 12q24.31.

PRODUCT

BRI3BP 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 BRI3BP shRNA Plasmid (h): sc-95884-SH and BRI3BP shRNA (h) Lentiviral Particles: sc-95884-V as alternate gene silencing products.

For independent verification of BRI3BP (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-95884A, sc-95884B and sc-95884C.

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

BRI3BP siRNA (h) is recommended for the inhibition of BRI3BP 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 BRI3BP gene expression knockdown using RT-PCR Primer: BRI3BP (h)-PR: sc-95884-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.