SANTA CRUZ BIOTECHNOLOGY, INC.

BRWD3 siRNA (h): sc-91071

BACKGROUND

Members of the WD repeat protein family are involved in a variety of cellular processes, including cell cycle progression, signal transduction, apoptosis and gene regulation. BRWD3 (bromodomain and WD repeat-containing protein 3) is a 1,802 amino acid protein expressed in fetal liver and most adult tissues. Existing as five alternatively spliced isoforms, BRWD3 contains two bromo domains, nine WD repeats and is thought to play a role in transcription by modifying chromatin. Mutations in the gene encoding BRWD3 are the cause of mental retardation X-linked type 93 (MRX93), which is also known as mental retardation X-linked with macrocephaly (XLMR). MRX93 is characterized by mild intellectual disability, macrocephaly, a prominent forehead and large cupped ears.

REFERENCES

1. Gedeon, A., et al. 1994. Pericentromeric genes for non-specific X-linked mental retardation (MRX). Am. J. Med. Genet. 51: 553-564.
2. Kalla, C., et al. 2005. Translocation t(X;11)(q13;q23) in B-cell chronic lymphocytic leukemia disrupts two novel genes. Genes Chromosomes Cancer 42: 128-143.
3. Müller, P., et al. 2005. Identification of JAK/STAT signalling components by genome-wide RNA interference. Nature 436: 871-875.
4. Field, M., et al. 2007. Mutations in the BRWD3 gene cause X-linked mental retardation associated with macrocephaly. Am. J. Hum. Genet. 81: 367-374.
5. Tarpey, P.S., et al. 2009. A systematic, large-scale resequencing screen of X-chromosome coding exons in mental retardation. Nat. Genet. 41: 535-543.
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CHROMOSOMAL LOCATION

Genetic locus: BRWD3 (human) mapping to Xq21.1.

PRODUCT

BRWD3 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 BRWD3 shRNA Plasmid (h): sc-91071-SH and BRWD3 shRNA (h) Lentiviral Particles: sc-91071-V as alternate gene silencing products.

For independent verification of BRWD3 (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-91071A, sc-91071B and sc-91071C.

PROTOCOLS

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

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

BRWD3 siRNA (h) is recommended for the inhibition of BRWD3 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 BRWD3 gene expression knockdown using RT-PCR Primer: BRWD3 (h)-PR: sc-91071-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.