

# C21orf6 siRNA (h): sc-91384

## BACKGROUND

RWDD2B (RWD domain containing protein 2B), also known as C21orf6, is a 319 amino acid protein that is ubiquitously expressed. RWDD2B contains one RWD domain, a conserved region of about 110 amino acid residues. RWD domains are found in many RING finger proteins, DEAD-like helicases and WD repeat containing proteins. It is believed that RWD domains may be involved in protein interaction. The gene that encodes RWDD2B maps to chromosome 21, which makes up about 1.5% of the human genome. Down syndrome, also known as trisomy 21, is the disease most commonly associated with chromosome 21. Alzheimer's disease, Jervell and Lange-Nielsen syndrome and amyotrophic lateral sclerosis are also associated with chromosome 21. Translocations are found to occur between chromosome 21 and 8, and chromosome 21 and 12, in certain leukemias.

## REFERENCES

1. Tyson, J., et al. 1997. IsK and KvLQT1: mutation in either of the two subunits of the slow component of the delayed rectifier potassium channel can cause Jervell and Lange-Nielsen syndrome. *Hum. Mol. Genet.* 6: 2179-2185.
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3. Orti, R., et al. 2000. Characterization of a novel gene, C21orf6, mapping to a critical region of chromosome 21q22.1 involved in the monosomy 21 phenotype and of its murine ortholog, orf5. *Genomics* 64: 203-210.
4. Doerks, T., et al. 2002. Systematic identification of novel protein domain families associated with nuclear functions. *Genome Res.* 12: 47-56.
5. Mao, R., et al. 2005. Primary and secondary transcriptional effects in the developing human Down syndrome brain and heart. *Genome Biol.* 6: R107.
6. Robakis, N.K. 2006. The discovery and mapping to chromosome 21 of the Alzheimer's amyloid gene: history revised. *J. Alzheimers Dis.* 10: 453-455.
7. Ait Yahya-Graison, E., et al. 2007. Classification of human chromosome 21 gene-expression variations in Down syndrome: impact on disease phenotypes. *Am. J. Hum. Genet.* 81: 475-491.

## CHROMOSOMAL LOCATION

Genetic locus: RWDD2B (human) mapping to 21q21.3.

## PRODUCT

C21orf6 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see C21orf6 shRNA Plasmid (h): sc-91384-SH and C21orf6 shRNA (h) Lentiviral Particles: sc-91384-V as alternate gene silencing products.

For independent verification of C21orf6 (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-91384A, sc-91384B and sc-91384C.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

C21orf6 siRNA (h) is recommended for the inhibition of C21orf6 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  $\mu$ M in 66  $\mu$ l. 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.

## GENE EXPRESSION MONITORING

RWDD2B (D-4): sc-514511 is recommended as a control antibody for monitoring of C21orf6 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor C21orf6 gene expression knockdown using RT-PCR Primer: C21orf6 (h)-PR: sc-91384-PR (20  $\mu$ l). 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](http://www.scbt.com) for detailed protocols and support products.