

# densin-180 siRNA (m): sc-41996

## BACKGROUND

Densin-180 is a synaptic transmembrane protein that is tightly associated with the postsynaptic density in CNS neurons and is postulated to function as a synaptic adhesion molecule. Densin-180 is a brain-specific member of the O-sialoglycoprotein family which is highly concentrated at synapses along dendrites. The sequence of densin-180 contains 17 leucine-rich repeats, a sialomucin domain, an apparent transmembrane domain, and a PDZ (PSD-95, Dlg, ZO-1) domain. The PDZ domain contributes to its binding to  $\alpha$ -actinin. The intracellular portion of densin-180, CaMKIIa, interacts with  $\alpha$ -actinin at distinct binding sites and, together, they form a ternary complex stabilized by multiple interactions.

## REFERENCES

1. Apperson, M.L., et al. 1996. Characterization of densin-180, a new brain-specific synaptic protein of the O-sialoglycoprotein family. *J. Neurosci.* 16: 6839-6852.
2. Kennedy, M.B. 1997. The postsynaptic density at glutamatergic synapses. *Trends Neurosci.* 20: 264-268.
3. Kennedy, M.B. 1998. Signal transduction molecules at the glutamatergic postsynaptic membrane. *Brain Res. Brain Res. Rev.* 26: 243-257.
4. Strack, S., et al. 2000. Association of calcium/calmodulin-dependent kinase II with developmentally regulated splice variants of the postsynaptic density protein densin-180. *J. Biol. Chem.* 275: 25061-25064.
5. Walikonis, R., et al. 2001. Densin-180 forms a ternary complex with the  $\alpha$ -subunit of  $\text{Ca}^{2+}$ /calmodulin-dependent protein kinase II and  $\alpha$ -actinin. *J. Neurosci.* 21: 423-433.

## CHROMOSOMAL LOCATION

Genetic locus: *Lrrc7* (mouse) mapping to 3 H4.

## PRODUCT

densin-180 siRNA (m) is a target-specific 19-25 nt siRNA designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10  $\mu\text{M}$  solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see densin-180 shRNA Plasmid (m): sc-41996-SH and densin-180 shRNA (m) Lentiviral Particles: sc-41996-V as alternate gene silencing products.

## STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at  $-20^{\circ}\text{C}$  with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at  $-20^{\circ}\text{C}$ , avoid contact with RNases and repeated freeze thaw cycles.

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

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## APPLICATIONS

densin-180 siRNA (m) is recommended for the inhibition of densin-180 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  $\mu\text{M}$  in 66  $\mu\text{l}$ . 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

densin-180 (G-1): sc-390153 is recommended as a control antibody for monitoring of densin-180 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<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor densin-180 gene expression knockdown using RT-PCR Primer: densin-180 (m)-PR: sc-41996-PR (20  $\mu\text{l}$ ). Annealing temperature for the primers should be  $55-60^{\circ}\text{C}$  and the extension temperature should be  $68-72^{\circ}\text{C}$ .

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.