



# Dab2 siRNA (h): sc-35167

## BACKGROUND

Dab1, a homolog of the *Drosophila* disabled protein, is an adaptor protein involved in neural development. This cytoplasmic protein is tyrosine-phosphorylated during rapid expansion of the developing nervous system, and it is thought to interact with other proteins via a domain similar to the PTB domains of the Shc family. Dab1 has been shown to interact with the SH2 domains of Src, Fyn and Abl. Mutations in Dab1 result in widespread abnormalities in the brain, similar to those seen in Reelin mutants. Reelin is a secreted protein thought to play a role in directing migrating neurons. Evidence suggests that Dab1 functions downstream of Reelin in a signaling pathway involved in positioning cells in the developing brain. Dab2 (also designated DOC-2) is a mitogen-responsive phosphoprotein that binds the SH3 domain of GRB2, and it is thought to be a negative regulator of growth.

## REFERENCES

1. Ogawa, M., et al. 1995. The reeler gene-associated antigen on Cajal-Retzius neurons is a crucial molecule for laminar organization of cortical neurons. *Neuron* 14: 899-912.
2. Howell, B.W., et al. 1997. Mouse Disabled (mDab1): a Src binding protein implicated in neuronal development. *EMBO J.* 16: 121-132.
3. Howell, B.W., et al. 1997. Neuronal position in the developing brain is regulated by mouse disabled-1. *Nature* 389: 733-737.
4. Rice, D.S., et al. 1998. Disabled-1 acts downstream of Reelin in a signaling pathway that controls laminar organization in the mammalian brain. *Development* 125: 3719-3729.

## CHROMOSOMAL LOCATION

Genetic locus: DAB2 (human) mapping to 5p13.1.

## PRODUCT

Dab2 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 Dab2 shRNA Plasmid (h): sc-35167-SH and Dab2 shRNA (h) Lentiviral Particles: sc-35167-V as alternate gene silencing products.

For independent verification of Dab2 (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-35167A, sc-35167B and sc-35167C.

## 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

Dab2 siRNA (h) is recommended for the inhibition of Dab2 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

Dab2 (E-11): sc-136964 is recommended as a control antibody for monitoring of Dab2 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 Dab2 gene expression knockdown using RT-PCR Primer: Dab2 (h)-PR: sc-35167-PR (20  $\mu$ l, 552 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## SELECT PRODUCT CITATIONS

1. Xie, X.M., et al. 2013. Aberrant hypermethylation and reduced expression of disabled-2 promote the development of lung cancers. *Int. J. Oncol.* 43: 1636-1642.

## 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.