

# SAP 97 siRNA (r): sc-270272

## BACKGROUND

The discs large (dlg) tumor suppressor gene was first identified in *Drosophila* through genetic analysis of germline mutations. Several mammalian homologs were subsequently identified and categorized into a protein family designated MAGUK (membrane-associated guanylate kinase homolog). The mammalian homolog of dlg, SAP 97, is also known as hdlg-1 (human) and NE-dlg (neuronal and endocrine). The rat synaptic protein SAP 90 (also designated PSD-95) also shares homology with these proteins. MAGUKs are localized at the membrane-cytoskeleton interface and contain several distinct domains which suggest a role for these proteins in intracellular signal transduction. Interaction of hdlg-1 and NE-dlg with the tumor suppressor protein APC suggest that MAGUK proteins may also play a role in regulation of growth.

## REFERENCES

1. Gateff, E. and Mechler, B.M. 1989. Tumor-suppressor genes of *Drosophila melanogaster*. Crit. Rev. Oncog. 1: 221-245.
2. Cho, K.O., et al. 1992. The rat brain postsynaptic density fraction contains a homolog of the *Drosophila* discs-large tumor suppressor protein. Neuron 9: 929-942.
3. Stehle, T. and Schulz, G.E. 1992. Refined structure of the complex between guanylate kinase and its substrate GMP at 2.0 Å resolution. J. Mol. Biol. 224: 1127-1141.
4. Woods, D.F. and Bryant, P.J. 1993. ZO-1, DlgA and PSD-95/SAP 90: homologous proteins in tight, septate and synaptic cell junctions. Mech. Dev. 44: 85-89.
5. Lue, R.A., et al. 1994. Cloning and characterization of hdlg: the human homologue of the *Drosophila* discs large tumor suppressor binds to protein 4.1. Proc. Natl. Acad. Sci. USA 91: 9818-9822.
6. Muller, B.M., et al. 1995. Molecular characterization and spatial distribution of SAP 97, a novel presynaptic protein homologous to SAP 90 and the *Drosophila* discs-large tumor suppressor protein. J. Neurosci. 15: 2354-2356.
7. Matsumine, A., et al. 1996. Binding of APC to the human homolog of the *Drosophila* discs large tumor suppressor protein. Science 272: 1020-1023.

## CHROMOSOMAL LOCATION

Genetic locus: Dlg1 (rat) mapping to 11q22.

## PRODUCT

SAP 97 siRNA (r) 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 SAP 97 shRNA Plasmid (r): sc-270272-SH and SAP 97 shRNA (r) Lentiviral Particles: sc-270272-V as alternate gene silencing products.

For independent verification of SAP 97 (r) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-270272A, sc-270272B and sc-270272C.

## 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

SAP 97 siRNA (r) is recommended for the inhibition of SAP 97 expression in rat 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

SAP 97 (2D11): sc-9961 is recommended as a control antibody for monitoring of SAP 97 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 SAP 97 gene expression knockdown using RT-PCR Primer: SAP 97 (r)-PR: sc-270272-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## PROTOCOLS

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