

# DAP-1 siRNA (h): sc-37379

## BACKGROUND

In contrast to growth factors which promote cell proliferation, Fas ligand (Fas-L) and the tumor necrosis factors (TNFs) rapidly induce apoptosis. Cellular response to Fas-L and TNF is mediated by structurally related receptors containing a conserved cytoplasmic region called the "death domain". DAP-1 (for death associated protein-1) is a basic, proline-rich protein expressed in  $\gamma$  interferon (IFN- $\gamma$ )-induced HeLa cells. DAP-1 is a member of the ubiquitin homology (UbH) family which also includes SUMO-1 and SIII p18 elogin protein. DAP-1 interacts with the death domain of TNF-R1 and can trigger programmed cell death in a variety of cell lines, as well as suppress NF $\kappa$ B/Rel activity.

## REFERENCES

1. Tartaglia, L.A., et al. 1993. A novel domain within the 55 kDa TNF receptor signals cell death. *Cell* 74: 845-853.
2. Itoh, N., et al. 1993. A novel protein domain required for apoptosis. Mutational analysis of human Fas antigen. *J. Biol. Chem.* 268: 10932-10937.
3. Smith, C.A., et al. 1994. The TNF receptor superfamily of cellular and viral proteins: activation, costimulation, and death. *Cell* 76: 959-962.
4. Nagata, S., et al. 1995. The Fas death factor. *Science* 267: 1449-1456.
5. Deiss, L.P., et al. 1995. Identification of a novel serine/threonine kinase and a novel 15 kDa protein as potential mediators of the  $\gamma$  interferon-induced cell death. *Genes Dev.* 9: 15-30.
6. Garrett, K.P., et al. 1995. Positive regulation of general transcription factor SIII by a tailed ubiquitin homolog. *Proc. Natl. Acad. Sci. USA* 92: 7172-7176.
7. Boddy, M.N., et al. 1996. PIC 1, a novel ubiquitin-like protein which interacts with the PML component of a multiprotein complex that is disrupted in acute promyelocytic leukemia. *Oncogene* 13: 971-982.
8. Ware, C.F., et al. 1996. Apoptosis mediated by the TNF-related cytokine and receptor families. *J. Cell. Biochem.* 60: 47-55.
9. Liou, M.L., et al. 1999. The ubiquitin-homology protein, DAP-1, associates with tumor necrosis factor receptor (p60) death domain and induces apoptosis. *Biol. Chem.* 274: 10145-10153.

## CHROMOSOMAL LOCATION

Genetic locus: DAP (human) mapping to 5p15.2.

## PRODUCT

DAP-1 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 DAP-1 shRNA Plasmid (h): sc-37379-SH and DAP-1 shRNA (h) Lentiviral Particles: sc-37379-V as alternate gene silencing products.

For independent verification of DAP-1 (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-37379A, sc-37379B and sc-37379C.

## 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

DAP-1 siRNA (h) is recommended for the inhibition of DAP-1 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

DAP-1 (C-8): sc-376754 is recommended as a control antibody for monitoring of DAP-1 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 DAP-1 gene expression knockdown using RT-PCR Primer: DAP-1 (h)-PR: sc-37379-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.