

# RAIDD siRNA (h): sc-37387

## BACKGROUND

A cytoplasmic domain of approximately 80 amino acids has been identified in the apoptosis-mediating receptors of TNF-R1 and FAS. This region was determined to be necessary for the transduction of the apoptotic signal and was designated the "death domain". Other death domain-containing, but otherwise structurally unrelated, proteins were identified on the basis of their ability to associate with the cytoplasmic domains of TNF-R1 or FAS. The receptor interacting protein RIP is a death domain-containing serine/threonine kinase which associates with FAS or the TNF-R1 binding protein TRADD. RAIDD (RIP-associated ICH-1/Ced-3 homologous protein with a death domain) has been identified as a RIP binding protein that also associates with members of the caspase family, providing a link between activation of the TNF-Rs and the triggering of the cysteine protease cascade. The amino-terminal domain of RAIDD shares significant homology with the prodomain of ICH-1 and mediates the binding of RAIDD to this cysteine protease.

## REFERENCES

1. Tartaglia, L.A., et al. 1993. A novel domain within the 55 kd TNF receptor signals cell death. *Cell* 74: 845-853.
2. Cleveland, J.L., et al. 1995. Contenders in Fas<sub>L</sub>/TNF death signaling. *Cell* 81: 479-482.
3. Hsu, H., et al. 1995. The TNF receptor 1-associated protein NF $\kappa$ B TRADD signals cell death and NF $\kappa$ B activation. *Cell* 81: 495-504.
4. Chinnaiyan, A.M., et al. 1995. FADD, a novel death domain-containing protein, interacts with the death domain of Fas and initiates apoptosis. *Cell* 81: 505-512.
5. Stanger, B.Z., et al. 1995. RIP: a novel protein containing a death domain that interacts with Fas/APO-1 (CD95) in yeast and causes cell death. *Cell* 81: 513-523.
6. Baker, S.J., et al. 1996. Transducers of life and death: TNF receptor superfamily and associated proteins. *Oncogene* 12: 1-9.
7. Duan, H., et al. 1997. RAIDD is a new "death" adaptor molecule. *Nature* 385: 86-89.
8. Park, H.H., et al. 2006. Crystal structure of RAIDD death domain implicates potential mechanism of PIDDosome assembly. *J. Mol. Biol.* 357: 358-364.

## CHROMOSOMAL LOCATION

Genetic locus: CRADD (human) mapping to 12q22.

## PRODUCT

RAIDD 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 RAIDD shRNA Plasmid (h): sc-37387-SH and RAIDD shRNA (h) Lentiviral Particles: sc-37387-V as alternate gene silencing products.

For independent verification of RAIDD (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-37387A, sc-37387B and sc-37387C.

## 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

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

RAIDD (G-7): sc-377080 is recommended as a control antibody for monitoring of RAIDD 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 RAIDD gene expression knockdown using RT-PCR Primer: RAIDD (h)-PR: sc-37387-PR (20  $\mu$ l, 536 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## SELECT PRODUCT CITATIONS

1. Dass, C.R., et al. 2010. Dz13, a c-jun DNzyme, is a potent inducer of caspase-2 activation. *Oligonucleotides* 20: 137-146.

## RESEARCH USE

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