SANTA CRUZ BIOTECHNOLOGY, INC.

# TRAF4 siRNA (h): sc-36713

## BACKGROUND

The tumor necrosis factor family (TNF) receptor superfamily is composed of several type I integral membrane glycoproteins that exhibit homology in their cystine-rich extracellular domains. Members of this family include TNF-RI, TNF-RII and CD40. Ligands for these receptors can be small, secreted proteins such as TNF or type II integral membrane proteins as is the case for the CD40 ligand, CD40L. While the signal transduction mechanism of the TNF receptor superfamily is poorly understood, activation of TNF-R or CD40 has been shown to induce the nuclear translocation of NFκB. Members of the TRAF (TNF receptor-associated factor) family have been implicated in this process. Four members have thus far been described and are designated TRAF1, TRAF2, TRAF3 (variously referred to as CRAF1, LAP1 or CD40bp) and TRAF4. TRAF4, originally termed CART1, is specifically expressed in breast carcinomas, and is localized to the nucleus in such tissues.

## REFERENCES


1. Smith, C.A., et al. 1994. The TNF receptor superfamily of cellular and viral proteins: activation, costimulation and death. Cell 76: 959-962.
2. Cleveland, J.L. and Ihle, J.N. 1995. Contenders in FasL/TNF death signaling. Cell 81: 479-482.
3. Rothe, M., et al. 1995. TRAF2-mediated activation of NFκB by the TNF receptor 2 and CD40. Science 269: 1424-1427.


## CHROMOSOMAL LOCATION

Genetic locus: TRAF4 (human) mapping to 17q11.2.

## PRODUCT

TRAF4 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TRAF4 shRNA Plasmid (h): sc-36713-SH and TRAF4 shRNA (h) Lentiviral Particles: sc-36713-V as alternate gene silencing products.

For independent verification of TRAF4 (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-36713A, sc-36713B and sc-36713C.

## 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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

TRAF4 siRNA (h) is recommended for the inhibition of TRAF4 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 µM in 66 µl. 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

TRAF4 (B-9): sc-390232 is recommended as a control antibody for monitoring of TRAF4 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 TRAF4 gene expression knockdown using RT-PCR Primer: TRAF4 (h)-PR: sc-36713-PR (20 µl, 446 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## SELECT PRODUCT CITATIONS


1. Li, J.M., et al. 2005. Acute tumor necrosis factor α signaling via NADPH oxidase in microvascular endothelial cells: role of $p47^{phox}$ phosphorylation and binding to TRAF4. Mol. Cell. Biol. 25: 2320-2330.
2. Teng, L., et al. 2012. Divergent effects of $p47^{phox}$ phosphorylation at S303-4 or S379 on tumor necrosis factor-α signaling via TRAF4 and MAPK in endothelial cells. Arterioscler. Thromb. Vasc. Biol. 32: 1488-1496.
3. Zhang, J., et al. 2014. TRAF4 promotes tumorigenesis of breast cancer through activation of Akt. Oncol. Rep. 32: 1312-1318.
4. Wang, A., et al. 2014. TRAF4 participates in Wnt/β-catenin signaling in breast cancer by upregulating β-catenin and mediating its translocation to the nucleus. Mol. Cell. Biochem. 395: 211-219.
5. Zhang, X., et al. 2014. Expression and anti-apoptotic function of TRAF4 in human breast cancer MCF7 cells. Oncol. Lett. 7: 411-414.


## RESEARCH USE

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