

# TRIM2 siRNA (h): sc-76742

## BACKGROUND

The tripartite motif (TRIM) family of proteins are characterized by a conserved TRIM domain that includes a coiled-coil region, a B-box type zinc finger, one RING finger and three zinc-binding domains. TRIM2 (tripartite motif-containing 2), also known as RNF86, is a 744 amino acid protein that localizes to cytoplasmic filaments and contains a variety of domains that are characteristic to TRIM proteins, including a RING-type zinc finger and a B box-type zinc finger, as well as one filamin repeat and six NHL repeats. Via its NHL repeats, TRIM2 interacts with Myosin V and is thought to contribute to the alternation of neural cellular mechanisms, possibly protecting cells from neurodegeneration. The gene encoding TRIM2 maps to human chromosome 4q31.3, which encodes nearly 6% of the human genome and has the largest gene deserts (regions of the genome with no protein encoding genes) of all of the human chromosomes.

## REFERENCES

1. Reymond, A., et al. 2001. The tripartite motif family identifies cell compartments. *EMBO J.* 20: 2140-2151.
2. Ohkawa, N., et al. 2001. Molecular cloning and characterization of neural activity-related RING finger protein (NARF): a new member of the RBCC family is a candidate for the partner of myosin V. *J. Neurochem.* 78: 75-87.
3. Meroni, G., et al. 2005. TRIM/RBCC, a novel class of "single protein RING finger" E3 ubiquitin ligases. *Bioessays* 27: 1147-1157.
4. Sardiello, M., et al. 2008. Genomic analysis of the TRIM family reveals two groups of genes with distinct evolutionary properties. *BMC Evol. Biol.* 8: 225.
5. Bowie, A.G. 2008. TRIM-ing down tolls. *Nat. Immunol.* 9: 348-350.
6. Ozato, K., et al. 2008. TRIM family proteins and their emerging roles in innate immunity. *Nat. Rev. Immunol.* 8: 849-860.
7. Balastik, M., et al. 2008. Deficiency in ubiquitin ligase TRIM2 causes accumulation of neurofilament light chain and neurodegeneration. *Proc. Natl. Acad. Sci. USA* 105: 12016-12021.

## CHROMOSOMAL LOCATION

Genetic locus: TRIM2 (human) mapping to 4q31.3.

## PRODUCT

TRIM2 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 TRIM2 shRNA Plasmid (h): sc-76742-SH and TRIM2 shRNA (h) Lentiviral Particles: sc-76742-V as alternate gene silencing products.

For independent verification of TRIM2 (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-76742A, sc-76742B and sc-76742C.

## RESEARCH USE

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

## 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

TRIM2 siRNA (h) is recommended for the inhibition of TRIM2 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.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor TRIM2 gene expression knockdown using RT-PCR Primer: TRIM2 (h)-PR: sc-76742-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.