



## TRIP12 siRNA (h): sc-94390

### BACKGROUND

Thyroid hormone receptors (TRs) are transcription factors that regulate the expression of specific genes in a hormone-dependent manner. TRIP12 (thyroid hormone receptor interactor 12) is a 1,992 amino acid E3 ubiquitin ligase involved in the human ubiquitin fusion degradation (UFD) pathway. TRIP12 also modulates the NEDD8 pathway, a series of steps implicated in signal transduction and cell cycle progression, where it influences APPBP1 degradation by catalyzing its ubiquitination. A member of the UPL family and K-HECT subfamily, TRIP12 contains one WWE domain and a single HECT (E6AP-type E3 ubiquitin-protein ligase) domain suggested to contain a non-covalent ubiquitin-binding site. Subject to post-translational phosphorylation upon DNA damage, TRIP12 expression is highest in testis and skeletal muscle, and has also been found in heart, spleen, thymus, ovary, placenta, kidney, prostate and peripheral blood leukocytes at lower levels.

### REFERENCES

1. Nomura, N., et al. 1994. Prediction of the coding sequences of unidentified human genes. II. The coding sequences of 40 new genes (KIAA0041-KIAA0080) deduced by analysis of cDNA clones from human cell line KG-1. *DNA Res.* 1: 223-229.
2. Lee, J.W., et al. 1995. Two classes of proteins dependent on either the presence or absence of thyroid hormone for interaction with the thyroid hormone receptor. *Mol. Endocrinol.* 9: 243-254.
3. Beausoleil, S.A., et al. 2004. Large-scale characterization of HeLa cell nuclear phosphoproteins. *Proc. Natl. Acad. Sci. USA* 101: 12130-12135.
4. Park, Y., et al. 2008. TRIP12 functions as an E3 ubiquitin ligase of APP-BP1. *Biochem. Biophys. Res. Commun.* 374: 294-298.
5. Ohki, Y., et al. 2009. The mechanism of poly-NEDD8 chain formation *in vitro*. *Biochem. Biophys. Res. Commun.* 381: 443-447.
6. Park, Y., et al. 2009. The HECT domain of TRIP12 ubiquitinates substrates of the ubiquitin fusion degradation pathway. *J. Biol. Chem.* 284: 1540-1549.
7. Online Mendelian Inheritance in Man, OMIM™. 2009. Johns Hopkins University, Baltimore, MD. MIM Number: 604506. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

### CHROMOSOMAL LOCATION

Genetic locus: TRIP12 (human) mapping to 2q36.3.

### PRODUCT

TRIP12 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 TRIP12 shRNA Plasmid (h): sc-94390-SH and TRIP12 shRNA (h) Lentiviral Particles: sc-94390-V as alternate gene silencing products.

For independent verification of TRIP12 (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-94390A, sc-94390B and sc-94390C.

### 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

TRIP12 siRNA (h) is recommended for the inhibition of TRIP12 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 TRIP12 gene expression knockdown using RT-PCR Primer: TRIP12 (h)-PR: sc-94390-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

### SELECT PRODUCT CITATIONS

1. Pei, J., et al. 2023. Piperlongumine conjugates induce targeted protein degradation. *Cell Chem. Biol.* 30: 203-213.e17.

### 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.