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# TORC1 shRNA (m) Lentiviral Particles: sc-45601-V

## BACKGROUND

The TORC (transducer of regulated cAMP response element-binding) proteins, TORC1 and TORC2, are potent CREB coactivators that are exported from the nucleus in a CRM1-dependent manner. The translocation of TORC proteins is a conserved step in the activation of CRE-mediated gene expression induced by cAMP. TORC1 and TORC2 operate via phosphorylation-dependent interactions.

## REFERENCES

1. Konkright, M.D., et al. 2003. TORCs: transducers of regulated CREB activity. *Mol. Cell* 12: 413-423.
2. Iourgenko, V., et al. 2003. Identification of a family of cAMP response element-binding protein coactivators by genome-scale functional analysis in mammalian cells. *Proc. Natl. Acad. Sci. USA* 100: 12147-12152.
3. Bittinger, M.A., et al. 2004. Activation of cAMP response element-mediated gene expression by regulated nuclear transport of TORC proteins. *Curr. Biol.* 14: 2156-2161.
4. Sreaton, R.A., et al. 2004. The CREB coactivator TORC2 functions as a calcium- and cAMP-sensitive coincidence detector. *Cell* 119: 61-74.
5. Behboudi, A., et al. 2005. Clear cell hidradenoma of the skin — a third tumor type with a t(11;19)-associated TORC1-MAML2 gene fusion. *Genes Chromosomes Cancer* 43: 202-205.

## CHROMOSOMAL LOCATION

Genetic locus: *Crtc1* (mouse) mapping to 8 B3.3.

## PRODUCT

TORC1 shRNA (m) Lentiviral Particles is a pool of concentrated, transduction-ready viral particles containing 3 target-specific constructs that encode 19-25 nt (plus hairpin) shRNA designed to knock down gene expression. Each vial contains 200  $\mu$ l frozen stock containing  $1.0 \times 10^6$  infectious units of virus (IFU) in Dulbecco's Modified Eagle's Medium with 25 mM HEPES pH 7.3. Suitable for 10-20 transductions. Also see TORC1 siRNA (m): sc-45601 and TORC1 shRNA Plasmid (m): sc-45601-SH as alternate gene silencing products.

## STORAGE

Store lentiviral particles at  $-80^\circ\text{C}$ . Stable for at least one year from the date of shipment. Once thawed, particles can be stored at  $4^\circ\text{C}$  for up to one week. Avoid repeated freeze thaw cycles.

## RESEARCH USE

The purchase of this product conveys to the buyer the nontransferable right to use the purchased amount of the product and all replicates and derivatives for research purposes conducted by the buyer in his laboratory only (whether the buyer is an academic or for-profit entity). The buyer cannot sell or otherwise transfer (a) this product (b) its components or (c) materials made using this product or its components to a third party, or otherwise use this product or its components or materials made using this product or its components for Commercial Purposes.

## APPLICATIONS

TORC1 shRNA (m) Lentiviral Particles is recommended for the inhibition of TORC1 expression in mouse cells.

## SUPPORT REAGENTS

Control shRNA Lentiviral Particles: sc-108080. Available as 200  $\mu$ l frozen viral stock containing  $1.0 \times 10^6$  infectious units of virus (IFU); contains an shRNA construct encoding a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA.

## GENE EXPRESSION MONITORING

TORC1 (B-12): sc-390881 is recommended as a control antibody for monitoring of TORC1 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 (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor TORC1 gene expression knockdown using RT-PCR Primer: TORC1 (m)-PR: sc-45601-PR (20  $\mu$ l). Annealing temperature for the primers should be  $55-60^\circ\text{C}$  and the extension temperature should be  $68-72^\circ\text{C}$ .

## BIOSAFETY

Lentiviral particles can be employed in standard Biosafety Level 2 tissue culture facilities (and should be treated with the same level of caution as with any other potentially infectious reagent). Lentiviral particles are replication-incompetent and are designed to self-inactivate after transduction and integration of shRNA constructs into genomic DNA of target cells.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.