



# SZABO SCANDIC

Part of Europa Biosite

## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

Weitere Information auf den folgenden Seiten!  
See the following pages for more information!



### Lieferung & Zahlungsart

siehe unsere [Liefer- und Versandbedingungen](#)

### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

### SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

[mail@szabo-scandic.com](mailto:mail@szabo-scandic.com)

[www.szabo-scandic.com](http://www.szabo-scandic.com)

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

# DRP1 shRNA (m) Lentiviral Particles: sc-45953-V

## BACKGROUND

Dynamin-related protein 1 (DRP1) mediates outer mitochondrial membrane fission in mammalian cells. DRP1 is also known as Dynamin-like protein 1, (Dlp1), DVLP or Dymple. DRP1 contains the N-terminal tripartite GTP-binding domain characteristic of the Dynamin superfamily of GTPases. DRP1 exists as a T-shaped dimer which contains a head, leg and stalk. The addition of GTP induces a rearrangement of the head and stalk that generates a force that ultimately results in membrane constriction. DRP1 is ubiquitously expressed with abundant expression in skeletal muscle, heart, kidney and brain. In the cell, DRP1 localized to the perinuclear region. In mouse brain, DRP1 is highly expressed in the cerebellum with particularly high levels in cerebellar Purkinje cells. During apoptosis, DRP1 translocates from the cytosol to mitochondria and localizes to potential sites of organelle division. Cell death is averted upon DRP1 inhibition, suggesting a critical role for mitochondrial fission in apoptosis.

## REFERENCES

1. Shin, H.W., et al. 1997. Identification and subcellular localization of a novel mammalian dynamin-related protein homologous to yeast Vps1p and Dnm1p. *J. Biochem.* 122: 525-530.
2. Imoto, M., et al. 1998. Identification and functional characterization of a novel human protein highly related to the yeast dynamin-like GTPase Vps1p. *J. Cell Sci.* 111: 1341-1349.
3. Smirnova, E., et al. 2001. Dynamin-related protein Drp1 is required for mitochondrial division in mammalian cells. *Mol. Biol. Cell* 12: 2245-2256.
4. Zhang, P., et al. 2001. Three-dimensional reconstruction of dynamin in the constricted state. *Nat. Cell Biol.* 3: 922-926.
5. Frank, S., et al. 2001. The role of dynamin-related protein 1, a mediator of mitochondrial fission, in apoptosis. *Dev. Cell* 1: 515-525.
6. Misaka, T., et al. 2002. Primary structure of a dynamin-related mouse mitochondrial GTPase and its distribution in brain, subcellular localization, and effect on mitochondrial morphology. *J. Biol. Chem.* 277: 15834-15842.

## CHROMOSOMAL LOCATION

Genetic locus: Dnm1l (mouse) mapping to 16 A2.

## PRODUCT

DRP1 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 DRP1 siRNA (m): sc-45953 and DRP1 shRNA Plasmid (m): sc-45953-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.

## APPLICATIONS

DRP1 shRNA (m) Lentiviral Particles is recommended for the inhibition of DRP1 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

DRP1 (H-300): sc-32898 is recommended as a control antibody for monitoring of DRP1 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-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor DRP1 gene expression knockdown using RT-PCR Primer: DRP1 (m)-PR: sc-45953-PR (20  $\mu$ l, 493 bp). 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.

## 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.

## PROTOCOLS

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