



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

www.szabo-scandic.com

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



SUR-1/2 shRNA (h) Lentiviral Particles: sc-44131-V

BACKGROUND

Both sulphonylurea receptor-1 (SUR-1) and sulphonylurea receptor-2 (SUR-2) belong to the ATP-binding cassette superfamily associated with KIR6.x. SUR-1 and KIR6.x proteins are required for the regulation of glucose-induced Insulin secretion by controlling K-ATP channel activity of the pancreatic β -cell membrane while SUR-2 and KIR6.x proteins reconstitute the cardiac and the vascular-smooth-muscle-type K-ATP channels. Loss-of-function mutations in the SUR-1 gene causes the disease persistent hyperinsulinemic hypoglycemia of infancy (PHHI). PHHI is characterized by increased irregular Insulin secretion, which causes disorganized formation of new islets and leads to hypoglycemia, coma and severe brain damage. The K-ATP channels controlled by SUR-2 are activated during myocardial ischemia, which suggests that mutations in the SUR-2 gene may cause channel malfunction and ischemic injury to the heart. No disease has yet been found to be associated with the SUR-2 gene.

REFERENCES

1. Chutkan, W.A., et al. 1996. Cloning, tissue expression and chromosomal localization of SUR-2, the putative drug-binding subunit of cardiac, skeletal muscle and vascular K-ATP channels. *Diabetes* 45: 1439-1445.
2. Thomas, P.M., et al. 1996. Inactivation of the first nucleotide-binding fold of the sulphonylurea receptor, and familial persistent hyperinsulinemic hypoglycemia of infancy. *Am. J. Hum. Genet.* 59: 510-518.
3. Akao, M., et al. 1997. Myocardial ischemia induces differential regulation of K-ATP channel gene expression in rat hearts. *J. Clin. Invest.* 100: 3053-3059.
4. Schwanstecher, M., et al. 1998. Potassium channel openers require ATP to bind to and act through sulphonylurea receptors. *EMBO J.* 17: 5529-5535.
5. Shindo, T., et al. 1998. SUR-2 subtype (A and B)-dependent differential activation of the cloned ATP-sensitive K^+ channels by pinacidil and nicorandil. *Br. J. Pharmacol.* 124: 985-991.
6. Suzuki, M., et al. 1999. Immunolocalization of sulphonylurea receptor 1 in rat pancreas. *Diabetologia* 42: 1204-1211.

CHROMOSOMAL LOCATION

Genetic locus: ABCC8 (human) mapping to 11p15.1, ABCC9 (human) mapping to 12p12.1.

PRODUCT

SUR-1/2 shRNA (h) Lentiviral Particles is a pool of concentrated, transduction-ready viral particles containing 4 target-specific constructs that encode 19-25 nt (plus hairpin) shRNA designed to knock down gene expression. Each vial contains 200 μ l frozen stock containing 1.0×10^6 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 SUR-1/2 siRNA (h): sc-44131 and SUR-1/2 shRNA Plasmid (h): sc-44131-SH as alternate gene silencing products.

STORAGE

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

APPLICATIONS

SUR-1/2 shRNA (h) Lentiviral Particles is recommended for the inhibition of SUR-1 and SUR-2 expression in human cells.

SUPPORT REAGENTS

Control shRNA Lentiviral Particles: sc-108080. Available as 200 μ l frozen viral stock containing 1.0×10^6 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

SUR-1/2 (D-18): sc-5791 is recommended as a control antibody for monitoring of SUR-1 and SUR-2 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 donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor SUR-1 and SUR-2 gene expression knockdown using RT-PCR Primer: SUR-1/2 (h)-PR: sc-44131-PR (20 μ l). Annealing temperature for the primers should be $55-60^\circ$ C and the extension temperature should be $68-72^\circ$ 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 or our catalog for detailed protocols and support products.