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## Produktinformation



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# LRP130 shRNA (h) Lentiviral Particles: sc-44734-V

## BACKGROUND

Tumor cells that are insensitive to anticancer drugs often have a multidrug-resistant (MDR) phenotype. Proteins associated with this phenomenon are transport-associated proteins such as P-glycoprotein, multidrug resistance protein 1, lung resistance-related protein (LRP) and breast cancer resistance protein (BCRP). LRP is the major component of the multimeric ribonucleoprotein complexes, with several copies of an untranslated RNA, which has been shown to transport along cytoskeletal-based cellular tracks. Leucine-rich protein (LRP130) is a cytoplasmic mRNA-binding protein likely to be involved in the processing of mitochondrial DNA transcripts. Defects in the LRPPRC gene that encodes LRP130 result in the French-Canadian type of Leigh syndrome, a severe neurological disorder characterized by lesions in the subcortical region of the brain. LRP130 also interacts with the low-affinity receptor for leukemia inhibitory factor to produce an intracellular signal cascade.

## REFERENCES

- Hou, J., et al. 1994. Molecular cloning and expression of the gene for a major leucine-rich protein from human hepatoblastoma cells (Hep G2). *In Vitro Cell. Dev. Biol. Anim.* 30A: 111-114.
- Scheffer, G.L., et al. 1995. The drug resistance-related protein LRP is the human major vault protein. *Nat. Med.* 1: 578-582.
- Herrmann, C., et al. 1999. Recombinant major vault protein is targeted to neuritic tips of PC12 cells. *J. Cell Biol.* 144: 1163-1172.
- Scheffer, G.L., et al. 2000. Lung resistance-related protein/major vault protein and vaults in multidrug-resistant cancer. *Curr. Opin. Oncol.* 12: 550-556.
- Lange, C., et al. 2000. Cloning and initial analysis of the human multidrug resistance-related MVP/LRP gene promoter. *Biochem. Biophys. Res. Commun.* 278: 125-133.
- Takebayashi, Y., et al. 2001. Expression of multidrug resistance associated transporters (MDR1, MRP1, LRP and BCRP) in porcine oocyte. *Int. J. Mol. Med.* 7: 397-400.

## CHROMOSOMAL LOCATION

Genetic locus: LRPPRC (human) mapping to 2p21.

## PRODUCT

LRP130 shRNA (h) 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 LRP130 siRNA (h): sc-44734 and LRP130 shRNA Plasmid (h): sc-44734-SH as alternate gene silencing products.

## STORAGE

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

## APPLICATIONS

LRP130 shRNA (h) Lentiviral Particles is recommended for the inhibition of LRP130 expression in human 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

LRP130 (F-7): sc-166178 is recommended as a control antibody for monitoring of LRP130 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 LRP130 gene expression knockdown using RT-PCR Primer: LRP130 (h)-PR: sc-44734-PR (20  $\mu$ l, 553 bp). 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

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