

▶ Porimin siRNA (h): sc-61383

BACKGROUND

Various death signals trigger cell death mediated by distinct pathways, including apoptosis and cytolysis, or oncosis. Oncosis is characterized by organelle and cell swelling, vacuolization and an increase in membrane permeability. Porimin is a 189 amino acid, keratinocyte-associated, pro-oncosis cell surface receptor that induces membrane injury. Porimin is a member of the cell membrane-associated Mucin family, characterized by the many O-linked and seven N-linked glycosylation sites on the extracellular domain. All tissues express Porimin except for ovary; it is highly expressed in colorectal adenocarcinoma and lung carcinoma. Porimin is a single-pass membrane protein that causes oncotic cell death by rapidly mediating pore formation on the plasma membrane. Porimin-mediated cell death is usually preceded by cell aggregation and the appearance of membrane blebs. Porimin may also play a role in the inhibition of cell adhesion.

REFERENCES

1. Zhang, C., et al. 1998. A cell surface receptor defined by a mAb mediates a unique type of cell death similar to oncosis. *Proc. Natl. Acad. Sci. USA* 95: 6290-6295.
2. Jansen, B.J., et al. 2001. Serial analysis of gene expression in differentiated cultures of human epidermal keratinocytes. *J. Invest. Dermatol.* 116: 12-22.
3. Ma, F., et al. 2001. Molecular cloning of Porimin, a novel cell surface receptor mediating oncotic cell death. *Proc. Natl. Acad. Sci. USA* 98: 9778-9783.
4. Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606356. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: TMEM123 (human) mapping to 11q22.2.

PRODUCT

Porimin 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Porimin shRNA Plasmid (h): sc-61383-SH and Porimin shRNA (h) Lentiviral Particles: sc-61383-V as alternate gene silencing products.

For independent verification of Porimin (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-61383A, sc-61383B and sc-61383C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Porimin siRNA (h) is recommended for the inhibition of Porimin 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 μ M in 66 μ 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.

GENE EXPRESSION MONITORING

Porimin (G-2): sc-377295 is recommended as a control antibody for monitoring of Porimin 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 reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Porimin gene expression knockdown using RT-PCR Primer: Porimin (h)-PR: sc-61383-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Kwong, S.P., et al. 2021. PORIMIN: the key to (+)-usnic acid-induced liver toxicity and oncotic cell death in normal human L02 liver cells. *J. Ethnopharmacol.* 270: 113873.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.