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# Lipocalin-1 siRNA (h): sc-45477

## BACKGROUND

Lipocalin-1 is a secretory protein that is highly expressed in fluids covering epithelial surfaces such as tears and respiratory secretions. This major lipid-binding protein in tears is also called tear lipocalin (TL) and von Ebner's gland protein (VEG), as it is also a major secretion of these lingual salivary glands. In addition to lacrimal glands and lingual glands, Lipocalin-1 is secreted by nasal mucosal glands, secretory glands of the tracheobronchial tract, sweat glands, mammary glands, adrenal gland, prostate, thymus, testis and corticotrophs of the pituitary gland. Specifically, Lipocalin-1 functions to stabilize the lipid film of human tear fluid by removing harmful lipids from the human corneal surface and delivering them to the aqueous phase of tears. Lipocalin-1 may also function as a transporter of hydrophobic molecules such as bitter substances on the tongue.

## REFERENCES

- Schmale, H., et al. 1990. Possible role for salivary gland protein in taste reception indicated by homology to lipophilic-ligand carrier proteins. *Nature* 343: 366-369.
- Blaker, M., et al. 1993. Molecular cloning of human von Ebner's gland protein, a member of the lipocalin superfamily highly expressed in lingual salivary glands. *Biochim. Biophys. Acta* 1172: 131-137.
- Kock, K., et al. 1994. Denatonium bitter tasting among transgenic mice expressing rat von Ebner's gland protein. *Physiol. Behav.* 56: 1173-1177.
- Schenkels, L.C., et al. 1995. EP-GP and the lipocalin VEGh, two different human salivary 20 kDa proteins. *J. Dent. Res.* 74: 1543-1550.
- Wojnar, P., et al. 2001. Molecular cloning of a novel Lipocalin-1 interacting human cell membrane receptor using phage display. *J. Biol. Chem.* 276: 20206-20212.
- Fluckinger, M., et al. 2004. Human tear lipocalin exhibits antimicrobial activity by scavenging microbial siderophores. *Antimicrob. Agents Chemother.* 48: 3367-3372.

## CHROMOSOMAL LOCATION

Genetic locus: LCN1 (human) mapping to 9q34.3.

## PRODUCT

Lipocalin-1 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Lipocalin-1 shRNA Plasmid (h): sc-45477-SH and Lipocalin-1 shRNA (h) Lentiviral Particles: sc-45477-V as alternate gene silencing products.

For independent verification of Lipocalin-1 (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-45477A, sc-45477B and sc-45477C.

## PROTOCOLS

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

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

## APPLICATIONS

Lipocalin-1 siRNA (h) is recommended for the inhibition of Lipocalin-1 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  $\mu$ M in 66  $\mu$ 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

Lipocalin-1 (H-8): sc-374620 is recommended as a control antibody for monitoring of Lipocalin-1 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 $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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 $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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 Lipocalin-1 gene expression knockdown using RT-PCR Primer: Lipocalin-1 (h)-PR: sc-45477-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## RESEARCH USE

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