



# Lipocalin-1 (R-40): sc-66944

## 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.
- Azzarolo, A.M., et al. 2004. Presence of tear lipocalin and other major proteins in lacrimal fluid of rabbits. *Comp. Biochem. Physiol. B, Biochem. Mol. Biol.* 138: 111-117.
- Gasymov, O.K., et al. 2005. Tear lipocalin: evidence for a scavenging function to remove lipids from the human corneal surface. *Invest. Ophthalmol. Vis. Sci.* 46: 3589-3596.
- Breustedt, D.A., et al. 2005. The 1.8-Å crystal structure of human tear Lipocalin reveals an extended branched cavity with capacity for multiple ligands. *J. Biol. Chem.* 280: 484-493.

## CHROMOSOMAL LOCATION

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

## SOURCE

Lipocalin-1 (R-40) is a rabbit polyclonal antibody raised against amino acids 138-177 mapping at the C-terminus of Lipocalin-1 of rat origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

Lipocalin-1 (R-40) is recommended for detection of Lipocalin-1 of rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1–2 µg per 100–500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of Lipocalin-1: 20 kDa.

## RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

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

## PROTOCOLS

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