



LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human LCN1 Protein
Catalog Number: hRP-2141
Manufacturer: LD Biopharma, Inc.

Introduction

Human Lipocalin 1 (LCN1) gene encodes a member of the lipocalin family of small secretory proteins. Lipocalins are extracellular transport proteins that bind to a variety of hydrophobic ligands. The encoded protein is the primary lipid binding protein in tears and is over-produced in response to multiple stimuli including infection and stress. The encoded protein may be a marker for chromosome aneuploidy as well as an auto-antigen in Sjogren's syndrome. It could also play a role in taste reception. LCN1 might be necessary for the concentration and delivery of sapid molecules in the gustatory system. It can bind various ligands, with chemical structures ranging from lipids and retinoids to the macrocyclic antibiotic rifampicin and even to microbial siderophores. It exhibits an extremely wide ligand pocket.

Full-length secreted form of human LCN1 mature protein cDNA (19 – 176aa) was constructed with codon optimization gene synthesis and expressed with a Human Alpha Fetal protein (AFP_n) N-terminal-His-TEV cleavage site Tag (217aa) fusion at LCN1 N-terminal. This protein was expressed in *E. coli* as inclusion bodies. The final product was refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified.

Gene Symbol: LCN1 (VEGP; PMFA; TLC; TP)
Accession Number: NP_002288
Species: Human
Size: 50 µg / Vial
Composition: 0.50 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, Sucrose and DTT.
Storage: In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.



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Key References

Posch B, et al., *Allergenic Can f 1 and its human homologue Lcn-1 direct dendritic cells to induce divergent immune responses*. J. Cell. Mol. Med. 19 (10), 2375-2384 (2015)

Venge P, et al., *Human Neutrophil Lipocalin as a Superior Diagnostic Means To Distinguish between Acute Bacterial and Viral Infections*. Clin. Vaccine Immunol. 22 (9), 1025-1032 (2015)

Careba I, et al., *Correlations between eyelid tumors and tear lipocalin, lysozyme and lactoferrin concentrations in postmenopausal women*. J Med Life 8 (1), 94-98 (2015)

McReynolds S, et al., *Lipocalin-1: a potential marker for noninvasive aneuploidy Screening*. Fertil. Steril. 95 (8), 2631-2633 (2011)

Applications

1. May be used for in vitro LCN1 mediated hydrophobic ligands endocytosis pathway regulation study with this protein either as soluble factor or as coating matrix protein.
2. May be used for protein-protein interaction assay.
3. Potential biomarker protein, such as monitoring infection by assay LCN1 protein concentration in tear.
4. As immunogen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MTLHRNEYGIASILDSYQCTAEISLADLATIFFAQFVQEATYKEVSKMVKDALTAIEKPTGD
EQSSGCLENQLPAFLLEELCHEKEILEKYGHSDCCSQSEEGRHNCFLAHKKPTPASIPLFQVP
EPVTSCEAYEEDRETFMNFKIYEIARRHPFLYAPTILLWAARYDKIIPSCCKAENAVECFQT
KAATVTKELRESSGGSHHHHHHGS~~ENLYFQGH~~HLLASDEEIQDVSGTWYLKAMTVDREFPEM
NLESVTPMTLTTLLEGGNLEAKVTMLISGRCQEVKAVLEKTDEPGKYTADGGKHHVAYIIRSHV
KDHYIFYCEGELHGKPV~~RGV~~KLVGRDPKNNLEALED~~FE~~KAAGARGLSTESILIPRQSETCSP
GSD