



**LD Biopharma, Inc.**  
9924 Mesa Rim Road Suite B  
San Diego, CA 92121  
Tel: 858-876-8266  
<http://www.ldbiopharma.com>

## - PRODUCT DATA SHEET -

**Name of Product:** Recombinant Human REG3a Protein  
**Catalog Number:** hRP-1383  
**Manufacturer:** LD Biopharma, Inc.

### Introduction

Human regenerating islet-derived protein 3-alpha (REG3a) gene encodes a pancreatic secretory protein that may be involved in cell proliferation or differentiation. It has similarity to the C-type lectin superfamily. The enhanced expression of this gene is observed during pancreatic inflammation and liver carcinogenesis. Recent data indicated that REG3a specifically binds to membrane phospholipids and kills bacteria by forming a hexameric membrane-permeabilizing oligomeric pore. REG3a expression pattern was also identified in various cancer tissues, which may provides an opportunity for using REG3a as biomarker protein in monitoring cancer progress.

Full-length mature form of human REG3a cDNA (27 – 175 aa, derived from BC036776) was constructed with codon optimization and expressed with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal. This protein is 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:** REG3a (HIP; INGAP; PAP; PAP-H; PAP1)  
**Accession Number:** NP\_620355  
**Species:** Human  
**Size:** 20 µg / Vial  
**Composition:** 0.2 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, 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.

### Key References

Mukherjee S, et al., *Antibacterial membrane attack by a pore-forming intestinal C-type lectin*. Nature 505 (7481), 103-107 (2014)



**LD Biopharma, Inc.**  
9924 Mesa Rim Road Suite B  
San Diego, CA 92121  
Tel: 858-876-8266  
<http://www.ldbiopharma.com>

Masui T, et al., *Expression of REG III and prognosis in head and neck cancer*. *Oncol. Rep.* 30 (2), 573-578 (2013)

van Beelen Granlund A, et al., *REG gene expression in inflamed and healthy colon mucosa explored by in situ hybridization*. *Cell Tissue Res.* 352 (3), 639-646 (2013)

Graf,R., et al., *A family of 16-kDa pancreatic secretory stress proteins form highly organized fibrillar structures upon tryptic activation*. *J. Biol. Chem.* 276 (24), 21028-21038 (2001)

## **Applications**

1. May be used for in vitro human REG3a mediated membrane phospholipids binding for regulating inflammation pathway in anti-bacterial or cancer cell proliferation study with this protein as either coating matrix protein or soluble factor.
2. May be used for REG3a protein-protein interaction assay.
3. Potential biomarker protein for monitoring cancer growth.
4. As antigen for specific antibody production.

## **Quality Control**

Purity: > 90% by SDS-PAGE.

## **Recombinant Protein Sequence**

MASMTGGQQMGRGHHHHHGNLYFQGGFEFEEPQRELPSARIRCPKGSKAYGSHCYALFLSPKSW  
TDADLACQKRPSGNLVSVLGAEGSFVSSLVKSIGNSYSYVWIGLHDPTQGTEPNGEWSSSS  
DVMNYFAWERNPSTISSPGHCASLSRSTAFRLRWKDYNCNVRLPYVCKFTD