



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 KRT18 Protein
Catalog Number: hRP-1619
Manufacturer: LD Biopharma, Inc.

Introduction

There are at least three-cytoskeletal systems in eukaryotic cells; the intermediate filament (IF) protein family is most complex. Depending on their polymerization properties and tissue specificity they are divided into six subtypes. Intermediate filaments of type-I and type-II are cytokeratin. Cytokeratin are also classified based on the expression as simple epithelial and stratified squamous cytokeratin. Cytokeratins are mainly involved in the protection of epithelial cells from mechanical and non-mechanical stresses that resulting in cell death. Human Keratin , type-I cytoskeletal 18 (KRT18) gene encodes the type I intermediate filament chain keratin 18. Keratin 18, together with its filament partner keratin 8, are perhaps the most commonly found members of the intermediate filament gene family. They are expressed in single layer epithelial tissues of the body. Mutations in this gene have been linked to cryptogenic cirrhosis.

Full-length human KRT18 cDNA (429aa, derived from BC000180) was constructed with codon optimization and expressed with a small T7-His-TEV cleavage site Tag (29aa) fusion at its 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: KRT18 (CYK18; K18)
Accession Number: NP_954657
Species: Human
Size: 50 µg / Vial
Composition: 0.5 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.

Key References

Miyasato M, et al., *The cytokeratin-18 fragment level as a biomarker of nonalcoholic*



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

fatty liver disease in patients with type 2 diabetes mellitus. Clin. Chim. Acta 433, 184-189 (2014)

Canbay A, et al., *Cytokeratin 18 as marker for non-invasive diagnosis and prognosis of acute and chronic liver diseases.* Z Gastroenterol 52 (3), 290-295 (2014)

Lichtenauer, M., et al., *Transient hypoxia leads to increased serum levels of heat shock protein-27, -70 and caspase-cleaved cytokeratin 18.* Clin. Lab. 60 (2), 323-328 (2014)

Cao W, et al., *Cytokeratin 18, alanine aminotransferase, platelets and triglycerides predict the presence of nonalcoholic steatohepatitis.* PLoS ONE 8 (12), E82092 (2013)

John K, et al., *Increased plasma levels of CK-18 as potential cell death biomarker in patients with HELLP syndrome.* Cell Death Dis 4, E886 (2013)

Applications

1. May be used for in vitro KRT18 mediated cellular cytoskeletal polymerization regulation study for cell stress induced apoptosis by intracellular delivery of this protein with “ProFectin” reagent.
2. May be used protein-protein interaction assay.
3. Potential biomarker protein for clinical applications such as monitoring liver cancer progression by measuring tissue KRT18 protein level in blood.
4. As antigen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHGNLYFQGEFSFTTRSTFSTNYRSLGSLVQAPSYGARPVSSAASVYA
GAGGSGSRI SVSRSTSFRGGMGSGLATGIAGGLAGMGGIQNEKETMQSLNDRLASYLDRVRS
ETENRRLESKIREHLEKKGPQVRDWSHYFKI IEDLRAQIFANTVDNARIVLQIDNARLAADDFR
VKYETELAMRQSVENDIHGLRKVIDDTNITRLQLETEIEALKEELLFMKKNHEEEVKGLQAQIA
SSGLTVEVDAPKSQDLAKIMADIRAQYDELARKNREELDKYWSQQIEESTTVVTTQSAEVGAAE
TTLTELRRRTVQSLEIDLDSMRNLKASLENSLREVEARYALQMEQLNGILLHLESELAQTRAEGQ
RQAQEYEALLNIKVKLEAEIATYRRLLEDGEDFNLDGALDSSNSMQTIQKTTTRRIVDGKVVSE
TNDTKVLRH