



LD Biopharma, Inc.
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San Diego, CA 92121
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<http://www.ldbiopharma.com>

- PRODUCT DATA SHEET -

Name of Product: Recombinant Human KRT8 Protein
Catalog Number: hRP-1625
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-II cytoskeletal 8 (KRT8) gene encodes the type II intermediate filament chain keratin 8. Type I and type II keratins heteropolymerize to form intermediate-sized filaments in the cytoplasm of epithelial cells. KRT8 protein typically dimerizes with keratin 18 to form an intermediate filament in simple single-layered epithelial cells. KRT8 plays a role in maintaining cellular structural integrity and also functions in signal transduction and cellular differentiation. Mutations in this gene cause cryptogenic cirrhosis.

Full-length human KRT8 cDNA (482 aa, derived from BC063513) 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: KRT8 (CARD2; CK-8; CYK8; K2C8; K8; KO)
Accession Number: NP_002264
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



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Jiang S, et al., *Piwil2 inhibits keratin 8 degradation through promoting p38-induced phosphorylation to resist Fas-mediated apoptosis*
Mol. Cell. Biol. 34 (21), 3928-3938 (2014)

Sun Z, et al., *CK8 phosphorylation induced by compressive loads underlies the downregulation of CK8 in human disc degeneration by activating protein kinase C*. Lab. Invest. 93 (12), 1323-1330 (2013)

Wu MS, et al., *Cytokeratin 8-MHC class I interactions: a potential novel immune escape phenotype by a lymph node metastatic carcinoma cell line*. Biochem. Biophys. Res. Commun. 441 (3), 618-623 (2013)

Perek B, et al., *Cytokeratin 8 in venous grafts: a factor of unfavorable long-term prognosis in coronary artery bypass grafting patients*. Cardiol J 20 (6), 583-591 (2013)

Nava-Acosta R et al., *Cytokeratin 8 is an epithelial cell receptor for Pet, a cytotoxic serine protease autotransporter of Enterobacteriaceae* MBio 4 (6), E00838-E00813 (2013)

Applications

1. May be used for in vitro KRT8 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 various cancer progression by measuring tissue KRT8 protein level in blood or tumor samples.
4. As antigen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHGNLYFQGEFSIRVTQKSYKVSTSGPRAFSSRSYTSGPSRISSSS
FSRVGSSNFRGGLGGGYGGASGMGITAVTVNQSLLSPLVLEVPNIQAVRTQEKEQIKTLNKK



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FASFIDKVRFLEQQNKMLETKWSLLQQQKTARSNMDNMFESYINNLRRLQLETLGQEKLKLEAEL
GNMQGLVEDFKNKYEDEINKRTEMENEFVLIKKDVDEAYMNKVELESRLGLELTDEINFLRQLYE
EEIRELQSQISDTSVVLSMDNSRSLDMSIIAEVKAQYEDIANRSRAEAESMYQIKYEELQSLA
GKHGDDLRRTKTEISEMNRNISRLQAEIEGLKGQRASLEAAIADAEQRGELAIKDANAKLSELE
AALQRAKQDMARQLREYQELMNVKLALDIEIATYRKLLEGEESRLESGMQNMSIHTKTTSGYAG
GLSSAYGGLTSPGLSYSLSGSSFGSGAGSSSFSRTSSSRVVVKKIETRDGKLVSESSDVLPK