



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 KRT20 Protein
Catalog Number: hRP-1620
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 cytokine. 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 20 (KRT20) gene encodes the type I intermediate filament chain keratin 20. KRT20 is a major cellular protein of mature enterocytes and goblet cells and is specifically expressed in the gastric and intestinal mucosa.

Full-length human KRT20 cDNA (423aa, derived from BC031559) 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: KRT20 (CD20; CK-20; K20; KRT21)
Accession Number: NP_061883
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

Yamamoto Y, et al., *Comparison between the location and the histomorphological /*



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immunohistochemical characteristics of noninvasive neoplasms of the ampulla of Vater. Hum. Pathol. 45 (9), 1910-1917 (2014)

Imai Y, et al., *Expression of cytokeratin 20 indicates invasive histological phenotype in poorly differentiated colorectal adenocarcinoma. Anticancer Res.* 34 (1), 159-167 (2014)

Kim JH, et al., *Loss of CDX2/CK20 expression is associated with poorly differentiated carcinoma, the CpG island methylator phenotype, and adverse prognosis in microsatellite-unstable colorectal cancer. Am. J. Surg. Pathol.* 37 (10), 1532-1541 (2013)

Samija I, et al., *Detection of cytokeratin-20-positive cells in preoperative and postoperative blood samples from colorectal cancer patients by real-time RT-PCR. Int. J. Biol. Markers* 28 (2), 174-181 (2013)

Tunca B, et al., *Overexpression of CK20, MAP3K8 and EIF5A correlates with poor prognosis in early-onset colorectal cancer patients. J. Cancer Res. Clin. Oncol.* 139 (4), 691-702 (2013)

Applications

1. May be used for in vitro KRT20 mediated cellular cytoskeletal polymerization regulation study for cell stress induced apoptosis by intracellular delivery of this protein with “ProFectin” reagent.
2. May be used for mapping PTP4A3 protein-protein interaction.
3. Potential biomarker protein for clinical applications such as monitoring various cancer progression by measuring tissue sample KRT20 protein expression level.
4. As antigen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHGNLYFQGEFDFSRRSFHRSLSSSLQAPVVSTVGMQRLGTTPSVYG
GAGGRGIRISNSRHTVNYGSDLTGGGDLFVGNKMMAMQNLNDRLASYLEKVRTLEQSNSKLEVQ



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IKQWYETNAPRAGRDISAYRQIEELRSQIKDAQLQNARCVLQIDNAKLAEDFRLKYETERGI
RLTVEADLQGLNKVFDDLTLHKTDLEIQIEELNKDLALLKKEHQEEVDGLHKHLGNTVNVEVDA
APGLNLGVIMNEMRQKYEVMAQKNLQEAKEQFERQTAVLQQQVTVNTEELKGTEVQLTELRRTS
QSLEIELQSHLSMKESLEHTLEETKARYSSQLANLQSLLSSLEAQLMQIRSNMERQNEYHILL
DIKTRLEQEIATYRRLLEGEDVKTTEYQLSTLEERDIKKTRKIKTVVQEVVDGKVVSSSEVKEVE
ENI