



LD Biopharma, Inc.
7384 Trade Street, Suite B
San Diego, CA 92121
Tel: 858-876-8266
<http://www.ldbiopharma.com>

- PRODUCT DATA SHEET -

Name of Product: Recombinant Human CDX1 Protein
Catalog Number: HTF-3218
Manufacturer: LD Biopharma, Inc. USA

Introduction

Human Homeobox protein CDX-1 gene is a member of the caudal-related homeobox transcription factor gene family. The encoded DNA-binding protein regulates intestine-specific gene expression and enterocyte differentiation. It has been shown to induce expression of the intestinal alkaline phosphatase gene, and inhibit beta-catenin/T-cell factor transcriptional activity. It is involved in activated KRAS-mediated transcriptional activation of PRKD1 in colorectal cancer (CRC) cells. CDX1 binds to the PRKD1 promoter in colorectal cancer (CRC) cells. It could play a role in the terminal differentiation of the intestine. CDX1 binds preferentially to methylated DNA.

Full-length human CDX1 cDNA (264 aa) was constructed with codon optimization using gene synthesis technology and expressed with a small T7-His-TEV cleavage site Tag (31aa) fusion at its N-terminal. It 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: CDX1
Accession Number: NP_001795
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, DTT and others.
Storage: In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least two weeks.

Key References



LD Biopharma, Inc.
7384 Trade Street, Suite B
San Diego, CA 92121
Tel: 858-876-8266
<http://www.ldbiopharma.com>

Choi SI, et al., *CDX1 Expression Induced by CagA-Expressing Helicobacter pylori Promotes Gastric Tumorigenesis*. *Mol. Cancer Res.* 17 (11), 2169-2183 (2019)

Samadani AA, et al., *CDX1/2 and KLF5 Expression and Epigenetic Modulation of Sonic Hedgehog Signaling in Gastric Adenocarcinoma* *Pathol. Oncol. Res.* 25 (3), 1215-1222 (2019)

Holst S, et al., *N-Glycomic and Transcriptomic Changes Associated with CDX1 mRNA Expression in Colorectal Cancer Cell Lines*. *Cells* 8 (3), E273 (2019)

Suh ER, et al., *DNA methylation down-regulates CDX1 gene expression in colorectal cancer cell lines*. *J. Biol. Chem.* 277 (39), 35795-35800 (2002)

Applications

1. May be used for in vitro CDX1 mediated gene transcription regulation study in activated KRAS-mediated transcriptional activation of PRKD1 pathway for intestinal cells by intracellular delivery of this recombinant CDX1 protein with protein delivery reagent such as ProFectin reagent kit.
2. May be used for mapping CDX1 protein-protein interaction.
3. May be used as specific substrate protein for kinase, and ubiquitin (Sumo pathway) related enzyme functional screening assays.
4. Potential biomarker protein for colorectal cancer or gastric cancer diagnosis.
5. As native human CDX1 antigen for specific antibody production.

Quality Control

Purity: > 93 % by SDS-PAGE.

Recombinant Human CDX1 Protein Sequence: (31.4 kD)

MASMTGGQQMGRGHHHHHENLYFQGGFGSYVGYVLDKDSPVYPGPARPASLGLGPQAYGPPA
PPAPPQYPDFSSYSHVEPAPAPPTAWGAPFPAPKDDWAAAYGPGPAAPAASPASLAFGPPPDPF
SPVPAPPGPGPGLLAQPLGGPGTPSSPGAQRPTPYEWMRRSVAAGGGGSGKTRTKDKYRVVYT
DHQRLELEKEFHYSRYITIRRKSELANLGLTERQVKIWFQNRRAKERKVNKKKQQQQPPQPP
MAHDITATPAGPSLGGLCPSNTSLLATSSPMPVKEEFLP