



LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human E-Cadherin Protein
Catalog Number: HRP-0339
Manufacturer: LD Biopharma, Inc. USA

Introduction

Human CHD (E-Cadherin) is an 882 amino acid protein that belongs to a member of the cadherin superfamily. The encoded protein is a calcium dependent cell-cell adhesion glycoprotein comprised of five extracellular cadherin repeats, a trans-membrane region and a highly conserved cytoplasmic tail. Mutations in this gene are correlated with gastric, breast, colorectal, thyroid and ovarian cancer. Loss of function is thought to contribute to progression in cancer by increasing proliferation, invasion, and/or metastasis. The ectodomain of this protein mediates bacterial adhesion to mammalian cells and the cytoplasmic domain is required for internalization. Recent publications indicated that coated recombinant human E-cadherin protein (extracellular domain) alone benefits human ES cell Culture.

Full-length extracellular domain of human E-Cadherin gene (155-710aa) was constructed with codon optimization gene synthesis and expressed as non-fusion protein in *E.coli* as inclusion bodies. The final product was refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified. Coating this recombinant protein at 5-10 ug / well (6 well plate) in either NutriStem or Stempro medium may be benefits for human ES or iPS cell generation in vitro.

Gene Symbol: CDH1 (CD324; Arc-1; CDHE; ECAD; LCAM; UVO)
Accession Number: NP_004351.1
Species: Human
Size: 100 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



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Yue Xu, et al. *Revealing a core signaling regulatory mechanism for pluripotent stem cell survival and self-renewal by small molecules.* PNAS. May 4, Vol 107, No.18. 8129-8134. (2010)

Yamauchi, C., et al. *E-cadherin expression on human carcinoma cell affects trastuzumab-mediated antibody-dependent cellular cytotoxicity through killer cell lectin-like receptor G1 on natural killer cells.* Int. J. Cancer 128 (9), 2125-2137. (2011)

Applications

1. Used as coating matrix protein for maintaining long-term ES or iPS cell culture then combine with proper ES cell culture mediums.
2. Excellent coating matrix materials for 11R tag recombinant TF intracellular delivery for protein derived iPS protocol with extremely low-level non-specific interaction.
3. May be used for E-cadherin protein-protein interaction assay.
4. As native human E-cadherin immunogen for its specific antibody production.

Quality Control

- Purity: > 93 % by SDS-PAGE.
- Functional Test: Each lot was tested as coating materials for human ES cell (H1) culture using 5 -10 µg in 1 ml Nutristem medium per well (6 well plate).

Coating Protocol:

Standard coating was performed using 1ml serum free medium / well, which contains 5-10ug protein / well) for incubating at 4°C overnight. After coating, remove culture medium (without any washing), then the plate is ready for ES cell culture.

Recombinant Human E-Cadherin Protein Sequence (60.7 kD)

MDWVIPPISCPENEKGFPPKLNLVQIKSNKDKEGKVFYSITGQGADTPPVGVFIIERETGWLKVT
EPLDRERIATYTLFSAVSSNGNAVEDPMEILITVTDQNDNKPEFTQEVFKGSVMEGALPGTSV
MEVTATDADDDVNTYNAAIAYTILSQDPELPDKNMFTINRNTGVISVVTGLDRESFPTYTLVV
QAADLQGEGLSTTATAVITVTDNDNPPIFNPTTYKQVPENEANVVITTLKVTADAPNTPAW
EAVYTI LNDDGGQFVVTTNPVNNDGILKTAKGLDFEAKQQYILHVAVTNVVPFEVSLTTSTATV



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TVDVLDVNEAPIFVPPEKRVEVSEDFGVGQEITSYTAQEPDTFMEQKITRYRIWRDTANWLEINP
DTGAISTRAELDREDFEHVKNSTYALIIATDNGSPVATGTGTLILLI LSDVNDNAPIPEPRTIF
FCERNPKPQVINIIDADLPNTSPFTAELTHGASANWTIQYNDPTQESIILKPKMALEVGDYKI
NLKLMDNQNKDQVTTLEVSVCDCEGAAGVCRKAQPVEAGLQIPAI