E-Cadherin, Human, Recombinant, 0.1 mg

Catalog Number **5085**

DESCRIPTION

Human E-Cadherin (CDH1) is an 882 amino acid protein (1-23 = signal domain) that belongs to a member of the cadherin super family. The encoded protein is a calcium dependent cell-cell adhesion glycoprotein comprised of five extracellular cadherin repeats, a transmembrane 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 publication from Ding Sheng's group indicated that coated recombinant human E-cadherin protein (extracellular domain) alone benefits human ES cell Culture.

Recombinant human E-Cadherin gene (155-710 aa Fragment) was constructed with codon optimization and expressed in non-fusion protein form in E. coli as inclusion bodies. The final product was refolded using a unique "temperature shift inclusion body refolding" technology and chromatographically purified.

APPLICATIONS

This product is for R&D use only and is not intended for human or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Characteristics

Parameter, Testing, and Method	E-Cadherin, Human, Recombinant Catalog # 5085
Quantity	0.1 mg (100 µg/vial)
Volume	0.2 mL
Concentration	0.5 mg/mL
Purity	≥90% as measured by SDS PAGE
Formulation	Formulated in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, L-Arginine, DTT and Glycerol.
Form	Solution
Production	Recombinant – E. coli
Type	
Storage Temperature	-20 °C
Shelf Life	12 months after receipt
Sterilization Method	Filtration
Cell Attachment Activity	Passes
Sterility	No growth
Gene Symbols	CDH1 (CD324, Arc-1, CDHE, ECAD, LCAM, UVO)
Accession Number	NP_004351.1
Recombinant Protein Sequence	MDWVIPPISCPENEKGPFPKNLVQIK SNKDKEGKVFYSITGQGADTPPVGV FIIERETGWLKVTEPLDRERIATYTLF SHAVSSNGNAVEDPMEILITVTDQND NKPEFTQEVFKGSVMEGALPGTSVM EVTATDADDDVNTYNAAIAYTILSQD PELPDKNMFTINRNTGVISVVTTGLD RESFPTYTLVVQAADLQGEGLSTTA TAVITVTDTNDNPPIFNPTTYKGQVP ENEANVVITTLKVTDADAPNTPAWEA VYTILNDDGGQFVVTTNPVNNDGILK TAKGLDFEAKQQYILHVAVTNVVPFE VSLTTSTATVTVDVLDVNEAPIFVPP EKRVEVSEDFGVGQEITSYTAQEPD TFMEQKITYRIWRDTANWLEINPDTG AISTRAELDREDFEHVKNSTYTALIIA TDNGSPVATGTGTLLLILSDVNDNAP IPEPRTIFFCERNPKPQVINIIDADLPP NTSPFTAELTHGASANWTIQYNDPT QESIILKPKMALEVGDYKINLKLMDN QNKDQVTTLEVSVCDCEGAAGVCR KAQPVEAGLQIP

INSTRUCTIONS FOR USE

Use these recommendations as guidelines to determine the optimal coating conditions for your culture system.

1. Thaw E-Cadherin and dilute to desired concentration using serum-free medium or PBS. The final solution should be sufficiently dilute so that the volume added covers the surface evenly.

Note: Use 1 ml PBS per well in a 6-well plate.

2. Add 5 – 10 µg protein to each well and incubate at 2 to 10°C overnight.

3. After incubation, aspirate remaining material.

4. Plates are ready for use. They may also be stored at 2-8°C damp or air dried if sterility is maintained.

E-Cadherin has been used as coating matrix protein for 1) maintaining long-term ES or iPS cell culture then combine with proper ES cell culture media, 2) as a coating matrix material for 11R tag recombinant TF intracellular delivery for protein derived iPS protocol with extremely low-level non-specific interaction and 3) as a native antigen for antibody production.

REFERENCES:

(1) 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).

(2) 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)