LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human AFPn-M2 Protein
Catalog Number: hRP-0383
Manufacturer: LD Biopharma, Inc.

Introduction

Cell adhesion to the extracellular matrix (ECM) is essential for the development and maintenance of cells. Cell adhesion to various ECM as ligands is mainly mediated by cell surface receptor such as integrins. Human Collagen Type I is a key component in ECM for cell attachment and differentiation. M2 Peptide AAQIRSQVMTHLRVIYER that derived from human collagen type I protein has been demonstrated in vitro as collagen mimetics and specific interacts with APP. This peptide will be a good coating matrix for cell attachment in serum free medium or enhance specific cell lineage differentiation.

Recombinant human AFPn-M1 peptide fusion protein was constructed by fusion human alpha fetal protein (AFP) N-terminal domain-I (1-198 aa) with human collagen type I derived AAQIRSQVMTHLRVIYER peptide. 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. Coating this recombinant fusion protein at 5-10 ug / well (6 well plate) in a specific culture medium can be used for human red blood cells differentiation study in vitro.

Gene Symbol:	AFPn-M2 fusion
Accession Number:	None
Species:	Human
Size:	100 µg / Vial
Composition:	1.0 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, arginine, DTT and Glycerol.
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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Grab B, et al., *Promotion of fibroblast adhesion by triple-helical peptide models of type I collagen-derived sequences*. J Biol Chem. 1996 May 24;271(21):12234-40.

Field GB, et al. *Synthesis and biological applications of collagen-model triple-helical peptides*. Org Biomol Chem. 2010 Mar 21;8(6):1237-58. Epub 2010 Jan 20.

Applications

1. As fusion protein fully derived from human protein, can be used as coating matrix protein to replace human collagen type I for human cell differentiation regulation study in vitro.

2. Can be used in low serum or serum-free cell culture media to improve attachment and spreading of many normal and stem cells including human ES cell, endothelial, epithelial, hepatocytes and mesenchymal stem cells.

3. Can be used to improve survival of primary cultures.

Quality Control

1. Purity: > 90% by SDS-PAGE.

Coating Protocol

Use 1ml PBS per well, add 5 - 10µg protein to each well and incubate at 4°C overnight. After coating, remove PBS solution, the plate is ready for ES cell cultivation.

Recombinant Protein Sequence

MTLHRNEYGIASILDSYQCTAEISLADLATIFFAQFVQEATYKEVSKMVKDALTAIEKPTGDEQ
SSGCLENQLPAFLEELCHEKEILEKYGHSDCCSQSEEGRHNCFLAHKKPTPASIPLFQVPEPVT
SCEAYEEDRETFMNKFIYEIARRHPFLYAPTILLWAARYDKIIPSCCKAENAVECFQTKAATVT
KELRESS GGSNIEF AAQIRSQVMTHLRVIYER
Linker M2 peptide