



**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 AFPn-M1 Protein  
**Catalog Number:** hRP-0377  
**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. M1 Peptide GPKGAAGEPGKP that derived from human collagen type I protein has been demonstrated in vitro as collagen mimetics and good for cell attachment coating materials.

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 GPKGAAGEPGKP 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-M1 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



LD Biopharma, Inc.  
9924 Mesa Rim Road Suite B  
San Diego, CA 92121  
Tel: 858-876-8266  
<http://www.ldbiopharma.com>

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  
SSGCLLENQLPAFLLEELCHEKEILEKYGHSDCCSQSEEGRHNCFLAHKKPTPASIPLFQVPEPVT  
SCEAYEEDRETFMKNFIYEIARRHPFLYAPTILLWAARYDKIIPSCCKAENAVECFQTKAATVT  
KELRESS GGSNIEF G P K G A A G E P G K P  
Linker M1 peptide