



LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human Fibronectin FN3 EDB Protein
Catalog Number: hRP-1675
Manufacturer: LD Biopharma, Inc.

Introduction

Extracellular matrix protein fibronectin (FN) plays an important role in cell adhesion. FN contains FN type I, II and III domains. The FN III repeat is generally about 90 amino acid long and to be composed of seven b-strands, forming two antiparallel b-sheets. In the C-terminal of human fibronectin region, there are 16 FN-III repeat domains. FN III domain derived proteins have been demonstrated to bind various proteins with high affinity. The alternatively-spliced extra-domain B (*EDB*) of fibronectin represents one of the best characterized markers of angiogenesis. This domain of 91-aminoacids is completely identical between mouse and man, is virtually absent in normal adult tissues (exception made for the endometrium in the proliferative phase and some vessels of the ovaries), but is strongly expressed in most aggressive solid cancer types, with a prominent vascular and/or stromal pattern of expression. The high-affinity human antibody L19 specific to EDB, has been expressed in different formats (scFv, SIP and IgG) and has been shown to selectively localize around tumor neo-vascular structures in animal models of cancer and in patients with cancer.

Full-length FN-III EDB domain of Human fibronectin cDNA was constructed by fully synthetic gene synthesis with codon optimization and expressed as N-terminal 29aa T7-His-TEV cleavage site -fusion protein. 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.

Gene Symbol: FN-III EDB domain
Accession Number: XP_005246464.1
Species: Human
Size: 50 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 15 days.



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Key References

Luciano Zardi., et al. *Transformed human cells produce a new fibronectin isoforms by preferential alternative splicing of a previously unobserved exon.* EMBO vol.6 no.8, 2337 -2342 (1987)

Borsi L.,et al., *Selective targeting of tumoral vasculature. Comparison of different formats of an antibody (L19) to the ED-B domain of fibronectin.* Int. J. Cancer 102, 75–85 (2002).

Alessandra Villa.,et al., *A high-affinity human monoclonal antibody specific to the alternative spliced EDA domain of fibronectin efficiently targets tumor neo-vasculature in vivo.* Int. J. Cancer 122, 2405-2413 (2008).

Susan Lorey., et al. *Novel ubiquitin-derived high affinity binding proteins with tumor targeting properties.* JBC. Mar 21; 289 (12): 8493 - 8507 (2014)

Applications

1. May be used for in vitro FN-III EDB domain mediated human endothelial cell or cancer stroma cell differentiation / migration regulations study with this protein as either soluble factor or coating matrix protein.
2. May be used for in vitro protein-protein interaction mapping.
3. As antigen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHGNLYFQGGFNVSVYTVKDDKESVPI SDTIIPEVPQLTDLSFVDI
TDSSIGLRWTPLNSSSTIIGYRITVVAAGEGIPIFEDFVDSSVGYT VTGLEPGIDYDISVITLI
NGGESAPTTLTQQTAVPPPTDLRFTNIGPDTMRVT