



LD Biopharma, Inc.
7384 Trade Street, Suite B
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<http://www.ldbiopharma.com>

- PRODUCT DATA SHEET -

Name of Product: Recombinant Human CD167 Protein
Catalog Number: hRP-1744
Manufacturer: LD Biopharma, Inc.

Introduction

Human epithelial discoidin domain- containing receptor (DDR1) gene encodes a tyrosine kinase that functions as cell surface receptor for fibrillar collagen and regulates cell attachment to the extracellular matrix, remodeling of the extracellular matrix, cell migration, differentiation, survival and cell proliferation. Collagen binding triggers a signaling pathway that involves SRC and leads to the activation of MAP kinases. Regulates remodeling of the extracellular matrix by up-regulation of the matrix metalloproteinases MMP2, MMP7 and MMP9, and thereby facilitates cell migration and wound healing. Required for normal blastocyst implantation during pregnancy, for normal mammary gland differentiation and normal lactation. It is also required for normal ear morphology and normal hearing. Expression of DDR1 protein is restricted to epithelial cells, particularly in the kidney, lung, gastrointestinal tract, and brain. In addition, it has been shown to be significantly overexpressed in several human tumors. DDR1 promotes smooth muscle cell migration, and thereby contributes to arterial wound healing. It also plays a role in tumor cell invasion.

Full-length extracellular domain of human DDR1 cDNA (21 – 417aa, Isoform-I, derived from BC070070) was constructed with codon optimization and expressed with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal. 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: DDR1 (CD167; CAK; EDDR1; HGK2; NEP; PTK3)
Accession Number: NP_001945
Species: Human
Size: 20 µg / Vial
Composition: 0.2 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, Sucrose and DTT.



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Storage: In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.

Key References

Ezzoukhry Z, et al., *TGF-beta1 promotes linear invadosome formation in hepatocellular carcinoma cells, through DDR1 up-regulation and collagen I cross-linking*. Eur. J. Cell Biol. 95 (11), 503-512 (2016)

Xie R, et al., *DDR1 enhances invasion and metastasis of gastric cancer via epithelial-mesenchymal transition*. Tumour Biol. 37 (9), 12049-12059 (2016)

Song J, et al., *Discoidin domain receptor 1 (DDR1), a promising biomarker, induces epithelial to mesenchymal transition in renal cancer cells*. Tumour Biol. 37 (8), 11509-11521 (2016)

Applications

1. May be used for in vitro DDR1 mediated tumor cell angiogenesis & growth regulation study in MAP kinase pathways for various cells with this protein either as soluble factor or as coating matrix protein.
2. May be used for protein-protein interaction assay.
3. Potential biomarker protein for early clinical diagnosis of several cancers, such as ovarian cancer.
4. As immunogen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHENLYFQGGFDMKGHFDPKCRYALGMQDRTIPDSDISASSSWS
STAARHSRLESDDGDGAWCPAGSVFPKEEYLQVDLQRLHLVALVGTQGRHAGGLGKEFSRSYR
LRYSRDGRRWGKDRWGQEVISGNEDPEGVVLKDLGPPMVARLVRFYPRADRVMSVCLRVELY
GCLWRDGLLSYTAPVGQTMYLSEAVYLNDSTYDGHTVGGLQYGGGLQLADGVVGLDDFRKSQEL
RVWPGYDYVGSNSHSFSSGYVEMEFDFDLRAFQAMQVHCNNMHTLGARLPGGVECFRRGPAM
AWEGEPMRHNLGGLGDPARAVSVPLGGRVARFLQCRFLFAGPWLLFSEISFISDVVNNSSPA
LGGTFPPAPWPPGPPPTNFSSLELEPRGQQPVAKAEGSPTA