



**LD Biopharma, Inc.**  
9924 Mesa Rim Road Suite B  
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<http://www.ldbiopharma.com>

## - PRODUCT DATA SHEET -

**Name of Product:** Recombinant Human CD331 Protein  
**Catalog Number:** hRP-1029  
**Manufacturer:** LD Biopharma, Inc.

### Introduction

The protein encoded by Human CD331 (fibroblast growth factor receptor 1: FGFR1) gene is a member of the fibroblast growth factor receptor (FGFR) family, where amino acid sequence is highly conserved between members and throughout evolution. FGFR family members differ from one another in their ligand affinities and tissue distribution. CD331 protein consists of an extracellular region, composed of three immunoglobulin-like domains, a single hydrophobic membrane-spanning segment and a cytoplasmic tyrosine kinase domain. The extracellular portion of the CD331 protein interacts with fibroblast growth factors, setting in motion a cascade of downstream signals, ultimately influencing mitogenesis and differentiation. CD331 protein binds both acidic and basic fibroblast growth factors and is involved in limb induction. Mutations in CD331 gene have been associated with Pfeiffer syndrome, Jackson-Weiss syndrome, Antley-Bixler syndrome, osteoglophonic dysplasia, and autosomal dominant Kallmann syndrome 2. Chromosomal aberrations involving CD331 gene are associated with stem cell myeloproliferative disorder and stem cell leukemia lymphoma syndrome. Alternatively spliced variants which encode different protein isoforms have been described.

Full-length extracellular domain of CD331 cDNA ( 22 – 376 aa, Isoform-1, derived from BC018128 ) was constructed with codon optimization and expressed with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal This protein is 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:** CD331 (FGFR1; BFGFR; CEK; FGFBP; FGFR-1)  
**Accession Number:** NP\_075598.2  
**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.



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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

Chioni,A.M. et al., *FGFR1 cleavage and nuclear translocation regulates breast cancer cell behavior*. J. Cell Biol. 197 (6), 801-817 (2012)

Kim,S.D., et al., *Leucine-rich repeat, immunoglobulin-like and transmembrane domain 3 (LRIT3) is a modulator of FGFR1*. FEBS Lett. 586 (10), 1516-1521 (2012)

Elfenbein,A., et al., *Syndecan 4 regulates FGFR1 signaling in endothelial cells by directing macropinocytosis*. Sci Signal 5 (223), RA36 (2012)

## Applications

1. May be used for in vitro CD331 mediated FGF growth factor pathway regulation study with this protein as either coating matrix protein or soluble factor.
2. May be used for CD331 protein-protein interaction assay.
3. Potential diagnostic biomarker for cancer and artery diseases.
4. As antigen for specific antibody production.

## Quality Control

Purity: > 90% by SDS-PAGE.

## Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHGNLYFQGGEFRPSPTLPEQAQPWGAPVEVESFLVHPGDLLQLRCR  
LRDDVQS INWLRDGVQLAESNRTRITGEEVEVQDSVPADSGLYACVTSSPSGSDTTYFSVNVSD  
ALPSSDDDDDDSSSEEKETDNTKPNRMPVAPYWTSPEKMEKKLHAVPAAKTVKFKCPSSGTP  
NPTLRWLKNKKEFKPDHRIGGYKVRATWSIIMDSVVP SDKGNYTCIVENEYGSINHTYQLDVV  
ERSPHRPILQAGLPANKTVALGSNVEFMCKVYSDPQPHIQWLKHIEVNGSKIGPDNLPYVQILK  
TAGVNTTDKEMEVLHLRNVSFEDAGEYTCLAGNSIGLSHHSAWLTVLEALEERPVMTSPLYLE