



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

- PRODUCT DATA SHEET -

Name of Product: Recombinant Human **CD332** Protein
Catalog Number: HRP-1023
Manufacturer: LD Biopharma, Inc. USA

Introduction

Human Fibroblast growth factor receptor 2 (FGFR2, also named as CD332) gene encodes a tyrosine-protein kinase that acts as cell-surface receptor for fibroblast growth factors and plays an essential role in the regulation of cell proliferation, differentiation, migration and apoptosis, and in the regulation of embryonic development. It is required for normal embryonic patterning, trophoblast function, limb bud development, lung morphogenesis, osteogenesis and skin development. It plays an essential role in the regulation of osteoblast differentiation, proliferation and apoptosis, and is required for normal skeleton development. CD332 promotes cell proliferation in keratinocytes and immature osteoblasts, but promotes apoptosis in differentiated osteoblasts. Phosphorylates PLCG1, FRS2 and PAK4. Ligand binding leads to the activation of several signaling cascades. It activation of PLCG1 leads to the production of the cellular signaling molecules diacylglycerol and inositol 1,4,5-trisphosphate. CD332 phosphorylation of FRS2 triggers recruitment of GRB2, GAB1, PIK3R1 and SOS1, and mediates activation of RAS, MAPK1/ERK2, MAPK3/ERK1 and the MAP kinase signaling pathway, as well as of the AKT1 signaling pathway. FGFR2 signaling is down-regulated by ubiquitination, internalization and degradation. CD332 mutations that lead to constitutive kinase activation or impair normal FGFR2 maturation, internalization and degradation lead to aberrant signaling. Over-expressed CD332 promotes activation of STAT1.

Full-length extracellular domain of human CD332 cDNA (22 – 377aa, derived from BC039243) was constructed with codon optimization gene synthesis and expressed with a human alpha Fetal Protein N-terminal (AFPn) -His-TEV cleavage site Tag (217aa) fusion at its N-terminal 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: CD332 (FGFR2)
Accession Number: NP_000132
Species: Human



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

Key References

Schrumpf T, et al., *FGFR2 overexpression and compromised survival in diffuse-type gastric cancer in a large central European cohort*. PLoS One 17 (2), e0264011 (2022)

Wibowo MA, et al., *Genomic Understanding Reveals the Important Role of FGFR2 as Paeoniflorin Target for Circumventing Breast Cancer Resistance to Tamoxifen*. Asian Pac J Cancer Prev 22 (12), 3949-3958 (2021)

Dell KR et al., *A novel form of fibroblast growth factor receptor 2. Alternative splicing of the third immunoglobulin-like domain confers ligand binding specificity*. J Biol Chem 267 (29), 21225-21229 (1992)

Applications

1. May be used for in vitro CD332 mediated spermatogenesis, embryo implantation, neural network formation, and tumor progression regulation study in vitro for various cells with this recombinant CD332 protein either as soluble factor or as coating matrix protein.
2. May be used for CD332 protein-protein interaction assay.
3. Potential Therapeutic / diagnostic protein, which may be used as cancer stem cell target (such as anti-CD332 antibody) for various diseases.
4. As native human CD332 immunogen for specific antibody production.

Quality Control

Purity: > 92 % by SDS-PAGE.

Recombinant Human **AFPn**- CD332 Fusion Protein Sequence (64.2 kD)



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MTLHRNEYGIASILDSYQCTAEISLADLATIFFAQFVQEATYKEVSKMVKDALTAIEKPTGDEQSSGCL
NQLPAFLEELCHEKEILEKYGHSDCCSQSEEGRHNCFLAHKKPTPASIPLFQVPEPVTSCAYEEDRETF
MNKFIYEIARRHPFLYAPTILLWAARYDKIIPSCCKAENAVECFQTKAATVTKELRESSGGSHHHHHS
ENLYFQGGERPSFSLVEDTTLEPEEPPTKYQISQPEVYVAAPGESLEVRCLLKDAAVISWTKDGVHLGPN
NRTVLI GEYLQIKGATPRDSGLYACTASRTVDSETWYFMVNVTDAISSGDDEDDTDGAEDFVSENSNNKR
APYWTNTEKMEKRLHAVPAANTVKFRCPAGGNPMPPTMRWLKNGKEFKQEHRIGGYKVRNQHWSLIMESVV
PSDKGNYTCVVENEYGSINHTYHLDVVERSHPRPILQAGLPANASTVVGGDVEFVCKVYSDAQPHIQWIK
HVEKNGSKYGPDGLPYLKVLKAAGVNTTDKEIEVLYIRNVTFEDAGEYTCLAGNSIGISFHSAWLTVLPA
PGREKEITASPDYLE