



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 FoxC2 Protein
Catalog Number: hTF-1864
Manufacturer: LD Biopharma, Inc.

Introduction

The forkhead box (Fox) family of transcription factor is an evolutionary ancient gene family that has expanded to more than 40 members in mammals. FoxC1 & FoxC2 are essential for arterial specification in mice before the onset of circulation by directly inducing transcription of Notch ligand, Delta-like 4. FoxC2 is also control of VE-cadherin expression by directly binding to its enhancer & promoter. Human forkhead box protein C2 (FoxC2) gene belongs to the forkhead family of transcription factors, which may play a role in the development of mesenchymal tissues. Recent data indicated that the Notch pathway promotes the maturation of hemogenic endothelium via Foxc2, establishing Foxc2 as a key factor in promoting definitive hematopoiesis.

Full-length human FoxC2 cDNA (500 aa) was constructed with codon optimization using gene synthesis technology and expressed with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal. It 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: FoxC2 (FKHL14; LD; MFH-1; MFH1)
Accession Number: NP_005242
Species: Human
Size: 10 µg / Vial
Composition: 0.1 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, Sucrose and DTT.
Storage: In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.

Key References

Il Ho Jang, et al., *Notch1 acts via FoxC2 to promote definitive hematopoiesis via effects on hemogenic endothelium*. BLOOD.26, Vol:125 pp:1418 - 1426 (2015)



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Sabine A et al., *Interplay of mechanotransduction, FOXC2, connexins, and calcineurin signaling in lymphatic valve formation*. *Adv Anat Embryol Cell Biol* 214, 67-80 (2014)

Watanabe A, et al., *Forkhead box protein C2 contributes to invasion and metastasis of extrahepatic cholangiocarcinoma, resulting in a poor prognosis*. *Cancer Sci.* 104 (11), 1427-1432 (2013)

Applications

1. May be used for in vitro FoxC2 mediated gene transcription regulation for mesenchymal lineage differentiation study by intracellular delivery of this protein with “ProFectin” reagent.
2. May be used for mapping FoxC2 protein-protein interaction.
3. May be used as specific substrate protein for kinase, and ubiquitin (Sumo pathway) related enzyme functional screening assays.
4. Potential biomarker protein for diagnostic application (prognosis) of extrahepatic cholangiocarcinoma.
5. As immunogen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHENLYFQGGEFQARYSVSDPNALGVVPYLSEQNYRAAGSYGGMAS
PMGVYSGHPEQYSAGMGRSYAPYHHHQPAAPKDLVKPPYSYIALITMAIQNAPEKKITLNGIYQ
FIMDRFPFYRENKQGWQNSIRHNLNLNECFVKVPRDDKKPGKGSYWTLPDSYNMFENGSLRR
RRRFKKKDVSKKEERAHLKEPPPAASKGAPATPHLADAPKEAEKKVVIKSEAASPALPVITKV
ETLSPESALQGSRSAASTPAGSPDGSLPEHHAAAPNGLPGF SVENIMTLRTSPPGGELSPGAG
RAGLVVPPALALPYAAAPPAAYGQPCAQGLEAGAAGGYQCSMRAMSLYTGAERPAHMCVPPALDE
ALSDHPSGPTSPLSALNLAAGQEGALAAATGHHHQHHGHHHPQAPPPPPAPQPQPTPQPGAAAAQ
AASWYLNHSGDLNHLPGHTFAAQQTFFPNVREMFNSHRLGIENSTLGESQVSGNASCQLPYRST
PPLYRHAAPYSYDCTKY