

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 HOP2 ProteinCatalog Number:hTF-1749Manufacturer:LD Biopharma, Inc.

Introduction

Human homologous-pairing protein 2 (HOP2) gene encodes a protein that functions in meiotic recombination. It is a subunit of the PSMC3IP/MND1 complex, which interacts with PSMC3/TBP1 to stimulate DMC1- and RAD51-mediated strand exchange during meiosis. The protein encoded by this gene can also co-activate ligand-driven transcription mediated by estrogen, androgen, glucocorticoid, progesterone, and thyroid nuclear receptors. Mutations in this gene cause XX female gonadal dysgenesis. Alternative splicing of this gene results in multiple transcript variants.

Full-length human HOP2 cDNA (216 aa, Isoform-II) was constructed with codon optimization gene synthesis technology 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:	HOP-2 (PSMC3IP; GT198; ODG3; TBPIP; HUMGT198A)
Accession Number:	NP_057640
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, 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

Peng M, et al., *Human ovarian cancer stroma contains luteinized theca cells harboring tumor suppressor gene GT198 mutations*. J. Biol. Chem. 288 (46), 33387-33397 (2013)



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Zangen D, at al., XX ovarian dysgenesis is caused by a PSMC3IP/HOP2 mutation that abolishes coactivation of estrogen-driven transcription Am. J. Hum. Genet. 89 (4), 572-579 (2011)

Satoh T, et al., *Tat-binding protein-1 (TBP-1), an ATPase of 19S regulatory particles of the 26S proteasome, enhances androgen receptor function in cooperation with TBP-1-interacting protein/Hop2.* Endocrinology 150 (7), 3283-3290 (2009)

Applications

- 1. May be used for in vitro HOP2 mediated DMC1- and RAD51-associated strand exchange during meiosis regulatory study by intracellular delivery of this protein with ProFectin reagent.
- 2. May be used for HOP2 protein-protein interaction assay.
- 3. May be used as specific substrate protein for kinase and ubiquitin (Sumo pathway) related enzyme functional screening assays.
- 4. Potential biomarker protein for monitoring its activities for cancer chemotherapy.
- 5. May be used for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHHENLYFQGGEFSKGRAEAAAGAAGILLRYLQEQNRPYSSQDVFGNL QREHGLGKAVVVKTLEQLAQQGKIKEKMYGKQKIYFADQDQFDMVSDADLQVLDGKIVALTAKV QSLQQSCRYMEAELKELSSALTTPEMQKEIQELKKECAGYRERLKNIKAATNHVTPEEKEQVYR ERQKYCKEWRKRKRMATELSDAILEGYPKSKKQFFEEVGIETDEDYNVTLPDP