



LD Biopharma, Inc.
9924 Mesa Rim Road, Suite B
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Tel: 858-876-8266
<http://www.ldbiopharma.com>

- PRODUCT DATA SHEET -

Name of Product: Recombinant Human COPS2 Protein
Catalog Number: hRP-1819
Manufacturer: LD Biopharma, Inc.

Introduction

Human COP9 signalosome complex subunit 2 (COPS2) gene encodes an essential component of the COP9 signalosome complex (CSN), a complex involved in various cellular and developmental processes. The CSN complex is an essential regulator of the ubiquitin (Ubl) conjugation pathway by mediating the deneddylation of the cullin subunits of SCF-type E3 ligase complexes, leading to decrease the Ubl ligase activity of SCF-type complexes such as SCF, CSA or DDB2. The complex is also involved in phosphorylation of p53/TP53, c-jun/JUN, I κ B α /NFKBIA, ITPK1 and IRF8/ICSBP, possibly via its association with CK2 and PKD kinases. CSN-dependent phosphorylation of TP53 and JUN promotes and protects degradation by the Ubl system, respectively. COPS2 is involved in early stage of neuronal differentiation via its interaction with NIF3L1. Recent data indicated that detection of COPS2 protein concentration in blood sample, as group of 7 genes might be a good biomarker for early diagnosis of gastric cancer.

Full-length human COPS2 cDNA (442 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. 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: COPS2 (ALIEN; CSN2; SGN2; TRIP15)
Accession Number: NP_004227
Species: Human
Size: 50 μ g / Vial
Composition: 0.5 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.



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Key References

Lina Yang, et al., *Identification of serum biomarkers for gastric cancer diagnosis using a human proteome microarray*. Molecular and cellular proteomics. Feb; 15(2): 614-623 (2016)

Eckey M, et al., *The corepressor activity of Alien is controlled by CREB-binding protein/p300*. FEBS J. 280 (8), 1861-1868 (2013)

Kob R, et al., *Regulation of the anaphase-promoting complex by the COP9 signalosome*. Cell Cycle 8 (13), 2041-2049 (2009)

Fang L, et al., *Characterization of the human COP9 signalosome complex using affinity purification and mass spectrometry*. J. Proteome Res. 7 (11), 4914-4925 (2008)

Applications

1. May be used for in vitro COPS2 mediated ubiquitin pathway regulation study in COP9 signalosome complex for early stage of neuronal differentiation by intracellular delivery of this protein with ProFectin Reagent.
2. May be used for protein-protein interaction mapping.
3. May be used as specific substrate protein for kinase, ad ubiquitin (Sumo pathway) related enzyme functional screening assays.
4. Potential early diagnostic biomarker protein for gastric cancer.
5. As immunogen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHENLYFQGGFSDMEDDFMCDDEEDYDLEYSNSENPNVDLENQY
YNSKALKEDDPKAAALSSFQKVLELEGEKGEWGFKALKQMIKINFKLTNFPPEMMNRYKQLLTYIR
SAVTRNYSEKSINSILDYISTSKQMDLLQEFYETTTLEALKDAKNDRLWFKTNTKLGKLYLEREE
YGKLQKILRQLHQSCQTDDGEDDLKKGTTQLLEIYALEIQMYTAQKNNKLLKALYEQSLHIKSAI
PHPLIMGVIRECGKMHLEGEFEKAHTDFFEAFKNYDESGSPRRTTCLKYLVLANMLMKSGIN
PFDSQEAKPYKNDPEILAMTNLVSAYQNNNDITEFEKILKTNHSNIMDDPFIREHIEELLRNIRT



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QVLIKLIKPYTRIHIPFISKELNIDVADVESLLVQCILDNTIHGRIDQVNQLLELDHQKRGGAR
YTALDKWTNQLNSLNQAVVSKLA