



**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 CAF1 Protein  
**Catalog Number:** hRP-1818  
**Manufacturer:** LD Biopharma, Inc.

### Introduction

The protein encoded by human CCR4-NOT transcription complex subunit 7 (CNOT7, also named as CAF1) gene has 3'-5' poly(A) exoribonuclease activity for synthetic poly(A) RNA substrate. Its function seems to be partially redundant with that of CNOT8. Catalytic component of the CCR4-NOT complex, which is one of the major cellular mRNA deadenylases and is linked to various cellular processes including bulk mRNA degradation, miRNA-mediated repression, translational repression during translational initiation and general transcription regulation. During miRNA-mediated repression the complex seems also to act as translational repressor during translational initiation. Additional complex functions may be a consequence of its influence on mRNA expression. Associates with members of the BTG family such as TOB1 and BTG2 and is required for their anti-proliferative activity. Recent data indicated that inhibition of CAF1 protein activity could enhance iPS generation efficiency in vitro due to CAF1 function as cell identity safeguard gene.

Full-length human CAF1 cDNA (284 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:** CAF1 (CNOT7; Cafla; hCAF-1)  
**Accession Number:** NP\_037486.2  
**Species:** Human  
**Size:** 25 µg / Vial  
**Composition:** 0.25 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, Sucrose and DTT.



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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

Sihem Cheloufi, et al., *The histone chaperon CAF1 safeguards somatic cell identity.* Nature. Vol: 528 pp: 218-224 (2015)

Shi JX, et al., *CNOT7/hCAF1 is involved in ICAM-1 and IL-8 regulation by tristetraprolin.* Cell. Signal. 26 (11), 2390-2396 (2014)

Chapat C, et al., *hCAF1/CNOT7 regulates interferon signalling by targeting STAT1.* EMBO J. 32 (5), 688-700 (2013)

Petit AP, et al., *The structural basis for the interaction between the CAF1 nuclease and the NOT1 scaffold of the human CCR4-NOT deadenylase complex.* Nucleic Acids Res. 40 (21), 11058-11072 (2012)

## Applications

1. May be used for in vitro CAF1 mediated gene transcription regulation study as chromatin assembly factor for cell identity safeguard 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. As immunogen for specific antibody production.

## Quality Control

Purity: > 90% by SDS-PAGE.

## Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHHENLYFQGGFPAATVDHSQRICEVWACNLDEEMKKIRQVIRKYNV  
VAMDTEFPVVARPIGEFRSNADYQYQLLR CNVDLLKIIQLGLTFMNEQGEYPPGTSTWQFNFK  
FNLTEDMYAQDSIELLTTSGIQFKKHEEEGIETQYFAELLMTSGVVLCEGVKWLSEFHSYDFGY  
LIKILTNSNLPEEELDFFEILRLFFPVIYDVKYLKMSCKNLKGGLEVAEQLELERIGPQHQAG  
SDSLLTGMAFFKMRMFEDHIDDAKYCGHLYGLSGSSYVQNGTGNAYEEEEANKQS