



**LD Biopharma, Inc.**  
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<http://www.ldbiopharma.com>

## - PRODUCT DATA SHEET -

**Name of Product:** Recombinant Human SUMO2 Protein  
**Catalog Number:** HRP-2951  
**Manufacturer:** LD Biopharma, Inc.

### Introduction

Human small ubiquitin-related modifier 2 (SUMO2) gene encodes an ubiquitin-like protein that can be covalently attached to proteins as a monomer or as a lysine-linked polymer. It covalently attaches via an isopeptide bond to its substrates requires prior activation by the E1 complex SAE1-SAE2 and linkage to the E2 enzyme UBE2I, and can be promoted by an E3 ligase such as PIAS1-4, RANBP2, CBX4 or ZNF451. This post-translational modification on lysine residues of proteins plays a crucial role in a number of cellular processes such as nuclear transport, DNA replication and repair, mitosis and signal transduction. Polymeric SUMO2 chains are also susceptible to poly-ubiquitination which functions as a signal for proteasomal degradation of modified proteins. It plays a role in the regulation of sumoylation status of SETX.

Full-length human SUMO2 cDNA (95aa) was constructed with codon optimization gene synthesis and expressed with a SuperGFP Protein N-terminal (sGFP; 257aa) fusion at target protein N-terminal in E.coli as highly soluble protein. The final product was chromatographically purified.

**Gene Symbol:** SUMO2 ( SMT3B; SMT3H2 )  
**Accession Number:** NP\_008868.3  
**Species:** Human  
**Size:** 50 µg / Vial  
**Composition:** 1.0 mg/ml, sterile-filtered, in 20 mM pH 7.2 HEPES Buffer, with 200mM NaCl, 1mM DTT, 1mM EDTA, 30% Glycerol, 0.1% Trinton X-100.  
**Storage:** In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least two week.

### Key References



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Marinello M, et al., *SUMOylation by SUMO2 is implicated in the degradation of misfolded ataxin-7 via RNF4 in SCA7 models*. Dis Model Mech 12 (1) (2019)

Zhao C. et al., *Overexpression of small ubiquitinlike modifier 2 ameliorates high glucoseinduced reductions in cardiomyocyte proliferation via the transforming growth factorbeta/Smad pathway* Mol Med Rep 18 (6), 4877-4885 (2018)

Harbani Kaur. et al., *A linker strategy for Trans-FRET Assay to Determine Activation Intermediate of NEDDylation Cascade*. Biotechnol. Bioeng. Vol.111, No.7 July, 1288-1295 (2014)

Pedelacq JD, et al., *Engineering & characterization of a superfolder green flurescent protein*. Nat Biotechnol. Jan: 24(1): 79-88. (2006).

## Applications

1. Recombinant Human SUMO2 can be conjugated to specific substrate proteins via the subsequent actions of a SUMO-activating (E1) enzyme, a SUMO-conjugating (E2) enzyme, and a SUMO ligase (E3). Assay reaction conditions will need to be optimized for each specific application. We recommend an initial SUMO2 concentration of 50ng / well, in 50 -100ul reaction volumn.
2. As native human SUMO2 immunogen for its specific antibody production.

## Quality Control

Purity: > 93 % by SDS-PAGE.

## Recombinant sfGFP- Human SUMO2 Protein Sequence (39.9 kD)

**MKHHHHHHQVSKGEELFTGVVPIVVELDGDVNGHKFSVRGEGEGDATNGKLTLLKFICTTGKLPV  
PWPTLVTTLTYGVCFSRYPDHMKRHDFFKSAMPEGYVQERTISFKDDGTYKTRAEVKFECDTL  
VNRIELKGIIDFKEDGNILGHKLEYNFNHNVYITADKQKNGIKANFKIRHNVEDGQVQLADHYQ  
QNTPIGDGPVLLPDNHYLSTQSVLSKDPNEKRDMVLLFVTAAGITHGMDELYKSGLRSGGSG  
GGESMADKPKKEGVKTENNDHINLKVAGQDGSVVQFKIKRHTPLSKLMKAYCERQGLSMRQIR  
FRFDGQPINETDTPAQLEMEDEDTIDVFQQQTGGVY**