



LD Biopharma, Inc.  
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## - PRODUCT DATA SHEET -

**Name of Product:** Recombinant Human TRIM21 N-terminal Protein  
**Catalog Number:** hRP-2464  
**Manufacturer:** LD Biopharma, Inc.

### Introduction

Human E3 ubiquitin-protein ligase TRIM21 gene encodes a member of the tripartite motif (TRIM) family. The TRIM motif includes three zinc-binding domains, a RING, a B-box type 1 and a B-box type 2, and a coiled-coil region. The encoded protein is part of the RoSSA ribonucleoprotein, which includes a single polypeptide and one of four small RNA molecules. The RoSSA particle localizes to both the cytoplasm and the nucleus. RoSSA interacts with auto-antigens in patients with Sjogren syndrome and systemic lupus erythematosus. Recent data indicated that TRIM21 C-terminal domain specifically interacts with various antibody (IgG Fc domain), when pathogen-complex with its antibody and enter into the cell, TRIM21 could rapidly degrade this antibody/pathogen complex through E3 ubiquitin ligase mediated protein degradation system. As such, when endogenous target protein specific antibody was co-delivered intracellular with TRIM21 protein, this complex can rapid tune-off the selected endogenous target protein in a few minutes (Trim-Away Technology).

To provides a perfect negative control for Trim-Away system, only N-terminal of human TRIM21 (2-285 aa, C-terminal IgG binding domain was deleted) gene was constructed with 29 aa N-terminal T7 / His / TEV cleavage site Tag and expressed in E.coli as soluble protein.. The final product was refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified.

**Gene Symbol:** TRIM21 (RNF81; R0/SSA; RO52; SSA; SSA1)  
**Accession Number:** NP\_003132.2  
**Species:** Human  
**Size:** 20 µg / Vial  
**Composition:** 0.20 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 7 days.



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## Key References

Dean Clift, et al., *A method for the Acute and Rapid Degradation of Endogenous Protein*. Cell. 172. 1-15 (2018)

McEwan WA , et al. *Intracellular antibody-bound pathogens stimulate immune signaling via the Fc receptor TRIM21*. Nat Immunol. 14(4): 327-336(2013)

Gomez-Martin D, et al., *Ro52/TRIM21-deficient expression and function in different subsets of peripheral blood mononuclear cells is associated with a proinflammatory cytokine response in patients with idiopathic inflammatory myopathies*. Clin. Exp. Immunol. 188 (1), 154-162 (2017)

Gao X, et al., *PKCalpha-GSK3beta-NF-kappaB signaling pathway and the possible involvement of TRIM21 in TRAIL-induced apoptosis*. Biochem. Cell Biol. 94 (3), 256-264 (2016)

## Applications

1. May be used as a good negative control for in vitro TRIM21 mediated antibody specific target protein degradation application (Trim-Away) study for various cells by intracellular delivery of this protein with protein delivery reagent such as ProFectin reagent kit when combined with target specific IgG delivery.
2. May be used for mapping protein-protein interaction.
3. May serve as auto-antibodies detection reagent, which will react with sera of some auto-immuno-diseases's or cancer patients.
4. As Immunogen for specific antibody production.

## Quality Control

Purity: > 90% by SDS-PAGE.

## Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHHENLYFQGGEFASAAARLTMMWEEVTCPICLDPFVPEVPSIECGHSFC  
QECISQVGGKGGGSVCPVCRQRFLKLNLRPNRQLANMVNNLKEISQEAAREGTQGERCAVHGERLH  
LFCEKDGKALCWVCAQSRKHRDHAMVPLEEAAQEYQEKLQVALGELRRKQELAEKLEVEIAIKR  
ADWKKTVETQKSRIHAEFVQQKNFLVEEQRQLQELEKDEREQRLRILGEKEAKLAQQSQALQEL  
ISELDRRCHSSALELLQEVIIVLERSESWNLKDLDITSPELRSVCHVPGLKKMLRTC