

# Human SUMO1 / SUMO-1 Protein (His Tag)

Catalog Number: 13095-H07E



Sino Biological  
Biological Solution Specialist

## General Information

### Gene Name Synonym:

DAP1; GMP1; OFC10; PIC1; SENP2; SMT3; SMT3C; SMT3H3; UBL1

### Protein Construction:

A DNA sequence encoding the human SUMO1 (AAH66306.1) (Ser 2-Val 101) was expressed, with a polyhistidine tag at the N-terminus.

**Source:** Human

**Expression Host:** E. coli

## QC Testing

**Purity:** > 90 % as determined by SDS-PAGE

### Bio Activity:

**Measured by its ability to be proteolytically processed by SENP1. >50% of 1 µg Recombinant Human (rh) SUMO1 is cleaved by < 10 ng of recombinant human SENP.**

### Endotoxin:

Please contact us for more information.

### Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

**Predicted N terminal:** Met

### Molecular Mass:

The recombinant human SUMO1 consisting of 107 amino acids and has a calculated molecular mass of 12.4 kDa. It migrates as an 22 kDa band in SDS-PAGE under reducing conditions as predicted.

### Formulation:

Lyophilized from sterile 20mM Tris, 500mM NaCl, pH 7.5

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

## Usage Guide

### Storage:

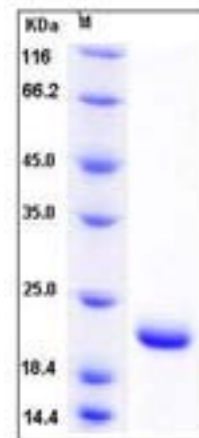
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## SDS-PAGE:



## Protein Description

Small ubiquitin-like modifier protein (SUMO) modification is a highly dynamic process, catalyzed by SUMO-specific activating (E1), conjugating (E2) and ligating (E3) enzymes, and reversed by a family of SUMO-specific proteases (SENPs). Small ubiquitin-like modifier 1 (SUMO1) is a member of the superfamily of ubiquitin-like proteins. Despite its structural similarity with ubiquitin, SUMO1 does not seem to play any role in protein degradation. SUMO1 plays an important role in modulation of NOX activity required for ROS generation. SUMO1 haploinsufficiency results in cleft lip and palate in animal models. SUMO1 gene variation in human non-syndromic cleft lip with or without cleft palate (NSCLP) development. SUMO-1 may be useful as a novel target for therapy in oral squamous cell carcinoma (SCC) as well as a clinical indicator for tumor recurrence together with Mdm2.

## References

1. Kim HJ, *et al.* (2011) SUMO1 attenuates stress-induced ROS generation by inhibiting NADPH oxidase 2. *Biochem Biophys Res Commun.* 410(3): 555-62.
2. Zuo Y, *et al.* (2009) Small ubiquitin-like modifier protein-specific protease 1 and prostate cancer. *Asian J Androl.* 11(1): 36-8.
3. Song T, *et al.* (2008) SUMO1 polymorphisms are associated with non-syndromic cleft lip with or without cleft palate. *Biochem Biophys Res Commun.* 377(4): 1265-8.

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