

Product Information

SUMO-1, human, GST-tagged
recombinant, expressed in *E. coli*

Catalog Number **S0439**
Storage Temperature $-70\text{ }^{\circ}\text{C}$

Synonyms: Sentrin-1, GMP-1, PIC1

Product Description

The class of post-translational protein modifications (PTM) known as **small ubiquitin-related modifiers** (SUMO) are part of the PTM class of ubiquitin and/or ubiquitin-like proteins (UBL).¹ SUMO-1 is one of 5 SUMO paralogs expressed in mammalian cells. SUMO-1 is a protein of 101 amino acids with a molecular mass of $\sim 11.5\text{ kDa}$.² SUMO-1 has a low but significant homology with ubiquitin.³

Almost all the SUMO-1 in cells is conjugated to other proteins. Very little free SUMO-1 has been found. The proteins to which SUMO-1 is conjugated include p53 (tumor suppressor protein), I κ B α , and Ran GTPase-activating protein 1 (RanGAP1). Proteins that cannot be ubiquitinated and degraded in that pathway are processed by conjugation to SUMO-1.^{4,5} The factors required for conjugation have been elucidated with RanGAP1.⁶ Conjugation proceeds without the equivalent of an E₃ ubiquitin ligase. In the presence of SUMO-1 activating enzyme (SAE1/SAE2), Ucbh9, and ATP, SUMO-1 is efficiently conjugated to I κ B α .⁷ SUMO-1 labeling/modification is implicated in the progression of G₂ to M phase cell cycle progression.

This SUMO-1-GST fusion protein is produced from a DNA sequence corresponding to human SUMO-1 fused to a GST-tag, and is expressed in *E. coli* cells. The molecular mass of SUMO-1-GST is $\sim 38.5\text{ kDa}$. This SUMO-1-GST product is supplied as a solution in 50 mM HEPES, pH 8.0, containing 150 mM NaCl and 1 mM DTT.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

The product ships on dry ice, and storage at $-70\text{ }^{\circ}\text{C}$ is recommended. The protein is stable to multiple freeze/thaw cycles.

References

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4. Desterro, J.M.P. *et al.*, *Mol. Cell*, **2(2)**, 233-239 (1998).
5. Rodriguez, M.S. *et al.*, *EMBO J.*, **18(22)**, 6455-6461 (1999).
6. Saitoh, H. *et al.*, *Curr. Biol.*, **8(2)**, 121-124 (1998).
7. Desterro, J.M.P. *et al.*, *J. Biol. Chem.*, **274(15)**, 10618-10624 (1999).

RBG,FEB,JWM,GCY,MAM 07/18-1