

SEN1core (SUMO1/sentrin/SMT3 specific peptidase 1)

Cat. # DB701

Background: SENP1 is a SUMO isopeptidase that plays a critical role in the development of prostate cancer. SENP1 is overexpressed in prostate cancer samples and transgenic overexpression of SENP1 in the prostate of mice leads to the development of prostatic intraepithelial neoplasia at an early age¹. Consistent with the model stated above, investigators have demonstrated that overexpression of SENP1 enhances androgen-receptor mediated transcription^{1,2}. Inactivation of SENP1 in mice by retroviral insertional mutation is embryonic lethal (e12.5-e14.5) and leads to an increase in the steady-state levels of SUMOylated forms of a number of proteins³. Depletion of SENP1 levels in PC3 cells by RNAi leads to a decrease in cyclin D1 expression¹. Transgenic overexpression of SENP1 in the prostate of mice leads to neoplasia at an early age¹. All of these experiments demonstrate that SENP1 plays a crucial role in the growth and development of organisms. Reinforcing the potential role SENP1 may play in prostate cancer is the observation that SENP1 is overexpressed in many prostate cancer samples¹.

Alternate names: Sentrin/SUMO-specific protease SENP1, Sentrin-specific protease 1

Product Information

Molecular Weight:	28kDa
Quantity:	25µg
Physical State:	Liquid
Source:	Human Recombinant
Tag:	His6
Activity:	This enzyme is active in the SUMO3-CHOP assay.
Storage:	-80° C. Avoid repeated freeze/thaw cycles

References

- 1) Cheng, J., et al., *Role of desumoylation in the development of prostate cancer. Neoplasia*, 2006. **8**(8): p. 667-76.
- 2) Cheng, J., et al., *SEN1 enhances androgen receptor-dependent transcription through desumoylation of histone deacetylase 1. Mol Cell Biol*, 2004. **24**(13): p. 6021-6028.
- 3) Yamaguchi, T., et al., *Mutation of SEN1/SuPr-2 reveals an essential role for desumoylation in mouse development. Mol Cell Biol*, 2005. **25**(12): p. 5171-82.

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