

SEN1 Catalytic Domain Protein, Human (His)

Cat. No.:	HY-P79459
Synonyms:	Sentrin-specific protease 1; SENP1; Sentrin/SUMO-specific protease SENP1; SUMO-Specific Peptidase 1
Species:	Human
Source:	E. coli
Accession:	Q9P0U3-1 (D415-L644)
Gene ID:	29843
Molecular Weight:	Approximately 30 kDa

PROPERTIES

AA Sequence	<pre> D S E D E F P E I T E E M E K E I K N V F R N G N Q D E V L S E A F R L T I T R K D I Q T L N H L N W L N D E I I N F Y M N M L M E R S K E K G L P S V H A F N T F F F T K L K T A G Y Q A V K R W T K K V D V F S V D I L L V P I H L G V H W C L A V V D F R K K N I T Y Y D S M G G I N N E A C R I L L Q Y L K Q E S I D K K R K E F D T N G W Q L F S K K S Q E I P Q Q M N G S D C G M F A C K Y A D C I T K D R P I N F T Q Q H M P Y F R K R M V W E I L H R K L L </pre>
Biological Activity	Human His6-SEN1 Catalytic Domain is a SUMO-specific deconjugating enzyme with an initial Human His6-SEN1 Catalytic Domain concentration of 50-500 nM. A 15 minute pre-incubation with 10 mM DTT is recommended to achieve maximum activity.
Appearance	Solution
Formulation	Supplied as a 0.2 µm filtered solution of in 50 mM HEPES, 200 mM NaCl, pH 7.4, 20% Glycerol.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	N/A.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice

DESCRIPTION

Background	SEN1 Catalytic Domain Protein is a protease that plays crucial roles in the SUMO pathway by catalyzing two essential functions. Firstly, it hydrolyzes an alpha-linked peptide bond at the C-terminal end of the small ubiquitin-like modifier (SUMO) propeptides, including SUMO1, SUMO2, and SUMO3, leading to the formation of mature proteins. Secondly, it
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deconjugates SUMO1, SUMO2, and SUMO3 from targeted proteins by cleaving an epsilon-linked peptide bond between the C-terminal glycine of the mature SUMO and the lysine epsilon-amino group of the target protein. SENP1 Catalytic Domain Protein is known to deconjugate SUMO1 from HIPK2, HDAC1, and BHLHE40/DEC1, leading to a decrease in their transcriptional repression activity. It also deconjugates SUMO1 from CLOCK, reducing its transcriptional activation activity. Additionally, SENP1 Catalytic Domain Protein deconjugates SUMO2 from MTA1 and SUMO1 from METTL3. It also desumoylates CCAR2, thereby decreasing its interaction with SIRT1. SENP1 Catalytic Domain Protein interacts with MTA1 and CCAR2 via their respective N-termini.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA