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# MATERIAL DATA SHEET

## Recombinant Human His6 SUMO1-Specific Peptidase 2/SENP2 Catalytic Domain

## Cat. # E-710

SUMO1/Sentrin/SMT3 Specific Peptidase 2 (SENP2) is a member of the SENP family of proteases (1). SENPs are a group of cysteine-type peptidases that catalyze two essential functions in the SUMO pathways: processing of full-length small Ubiquitin-related modifiers (SUMOs) to their mature forms and deconjugation of SUMOs from SUMOylated proteins. SENP2 is 589 amino acids (aa) in length with a predicted molecular weight of 67.9 kDa. Human SENP2 shares 88% and 87% aa sequence identity with the mouse and rat orthologs, respectively. Mammalian SENPs share a conserved C-terminal catalytic domain while the N-terminal domains have no significant similarity (1). The N-terminal domain of SENP2 contains a nuclear localization signal and a CRM1-dependent nuclear export signal allowing SENP2 to shuttle between the nucleus and cytoplasm (2). In the nucleus, SENP2 associates with Nup153, a nucleoporin that is located on the nucleoplasmic side of the nuclear pore complex (3,4). It is thought that SENP2 functions are regulated by its association with the nuclear pore complex and nucleocytoplasmic shuttling (2,3). SENP2 has been shown to deSUMOylate multiple proteins including C/EBPβ, RORα/NR1F1, IRF3, MEF2A, and NEMO (5-10). Consequently, SENP2 is thought to be critical for the regulation of various cellular processes such as adipogenesis, immune responses, and cancer cell growth (6-8,10). Additionally, SENP2 deSUMOylates MDM2, allowing MDM2 to bind and ubiquitinate p53 (11,12). SENP2-mediated regulation of MDM2 appears to be critical for the development of the trophoblast during embryogenesis and maintenance of the genome during stress responses (11,12).

This recombinant human protein encompasses the catalytic domain of SENP2 (aa 368-589) and contains an N-terminal $His_6$-tag.

| Product Information | |
|---|---|
| **Quantity:** | 50 µg |
| **MW:** | 29 kDa |
| **Source:** | *E. coli*-derived<br>Contains an N-terminal Gly-Ser-Ser and 6-His tag<br>Accession # Q9HC62 |
| **Stock:** | X mg/ml (X mM) in 50 mM HEPES pH 8.0, 100 mM NaCl, 10% (v/v) Glycerol, 1 mM TCEP |
| **Purity:** | >95%, by SDS-PAGE under reducing conditions and visualized by Colloidal Coomassie® Blue stain. |



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## Use & Storage

**Use:** Recombinant Human His6-SENP2 Catalytic Domain is a SUMO-specific deconjugating enzyme. Reaction conditions will need to be optimized for each specific application. We recommend an initial Recombinant Human His6-SENP2 Catalytic Domain concentration of 50-500 nM. A 15 minute pre-incubation with 10 mM DTT is recommended to achieve maximum activity.

**Storage:** **Use a manual defrost freezer and avoid repeated freeze-thaw cycles.**

- 12 months from date of receipt, -70 °C as supplied.
- 3 months, -70 °C under sterile conditions after opening.

## Literature

**References:**

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