Recombinant SUMO1 protein (His tag)

Catalog Number	540112
Synonyms	SUMO-1; GAP-modifying protein 1; GMP1; SMT3 homolog 3; Sentrin; Ubiquitin-homology domain protein PIC1; Ubiquitin-like protein SMT3C; Smt3C; Ubiquitin-like protein UBL1
Species	Human
Expression System	E. coli
Accession	P63165
Molecular Weight	Predictes a molecular mass of 12.65 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 14 kDa band.

Product Information

Sequence Region	2-97
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>87%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 2-97 aa (P63165) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	Recombinant Human SUMO-1 (Small ubiquitin-related modifier 1) fragment (amino acids 2-97) is a high-purity protein designed to encompass the complete ubiquitin-like domain. This fragment serves as an essential tool for investigating SUMOylation mechanisms, post-translational modifications, and related cellular processes in a controlled experimental setting. SUMO-1 is a ubiquitin-like protein that plays a critical role in post-translational modification through covalent attachment to substrate proteins via an isopeptide bond. This SUMOylation process requires activation by the E1 complex SAE1-SAE2, linkage to the E2 enzyme UBE2I, and can be enhanced by E3 ligases such as PIAS1-4, RANBP2, or CBX4. SUMO-1 modification regulates numerous cellular functions including nuclear transport, DNA replication and repair, mitosis, signal transduction, and targeting of proteins like RANGAP1 to the nuclear pore complex. It modulates the gating characteristics of potassium channel KCNB1 and can form polymeric chains that are susceptible to polyubiquitination, marking proteins for proteasomal degradation. SUMO-1 is localized to multiple cellular compartments including the nucleus (particularly PML bodies and speckles), cytoplasm, and cell membrane, and is involved in regulatory networks such as palate development and interaction with transcription factors like ZFHX3.