

Recombinant Human SUMO1 Protein, Rhodamine 110 Labeled

Cat. No. SUMO1-04H Lot. No. (See product label)

SPECIFICATION

Product Overview

This SUMO1 substrate is C-terminally derivatized with a Glycine-Rhodamine-110 (3,6-diamino-9-(2-carboxyphenyl)) fluorophore. The Gly-Rh110 remains quenched until the amide bond between the C-terminal glycine and the Gly-Rh110 compound is hydrolyzed. The efficiency of quenching combined with the powerful signal upon hydrolysis yields a reagent with unparalleled signal-to-background. SUMO1-Rh110 can be used to study the deSUMOylating activity of hydrolases SENP1 and SENP2, or other deSUMOylating enzymes. The substrate activity of SUMO1-Rhodamine110 was determined by measuring the SENP1 catalyzed release of unquenched Gly-Rh110. The Excitation and Emission of this substrate is 485nm and 535nm respectively.

Species Human

Source E.coli

Description

Ubiquitin-like protein that can be covalently attached to proteins as a monomer or a lysine-linked polymer. Covalent attachment via an isopeptide bond to its substrates requires prior activation by the E1 complex SAE1-SAE2 and linkage to the E2 enzyme UBE2I, and can be promoted by E3 ligases such as PIAS1-4, RANBP2 or CBX4. This post-translational modification on lysine residues of proteins plays a crucial role in a number of cellular processes such as nuclear transport, DNA replication and repair, mitosis and signal transduction. This SUMO1 substrate is C-terminally derivatized with a bis-Gly-Rhodamine-110 fluorophore. The bis-Gly-Rh110 is quenched until the amide bond between the C-terminal glycine and the bis-Gly-

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|---------------------------------|---|
| | Rh110 compound is hydrolyzed to mono-Gly-Rhodamine 110. The efficiency of quenching combined with the powerful signal upon hydrolysis yields a reagent with unparalleled signal-to-background. |
| Conjugation/Label | Rhodamine 110 |
| Molecular Mass | 11.5 kDa |
| Purity | >97% by LCMS |
| Applications | SUMO1-Rh110 can be used to study the deSUMOylating activity of hydrolases SENP1 and SENP2, or other deSUMOylating enzymes. The substrate activity of SUMO1-Rhodamine110 was determined by measuring the SENP1 catalyzed release of unquenched mono-Gly-Rh110. The Excitatio and Emission of this substrate is 485nm and 535nm respectively. |
| Notes | For Research Use Only, Not For Use In Humans. |
| Storage | Store at –80 centigrade after product arrival. Avoid multiple freeze/thaws. It is recommended to make multiple aliquots after the first thaw. |
| Storage Buffer | 50mM Hepes pH 7.5, 100mM NaCl |
| Concentration | 160uM, 1.8 mg/mL |
| Detection Method | Fluorescence |
| Substrate Properties | Protein-Based Substrate. Typical experimental concentration 50-500 nM. |
| Excitation/Emission (nm) | The Excitation and Emission of this substrate is 485nm and 535nm respectively. |

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GENE INFORMATION

Gene Name SUMO1 SMT3 suppressor of mif two 3 homolog 1 (*S. cerevisiae*) [*Homo sapiens*]

Official Symbol SUMO1

Synonyms SUMO1; SMT3 suppressor of mif two 3 homolog 1 (*S. cerevisiae*); SMT3 suppressor of mif two 3 homolog 1 (yeast) , ubiquitin like 1 (sentrin) , UBL1; small ubiquitin-related modifier 1; GMP1; OFC10; PIC1; SMT3C; SMT3H3; SUMO 1; sentrin; SMT3 homolog 3; GAP modifying protein 1; ubiquitin-like protein UBL1; ubiquitin-like protein SMT3C; ubiquitin-homology domain protein PIC1; DAP1; SMT3; UBL1; SENP2;

Gene ID 7341

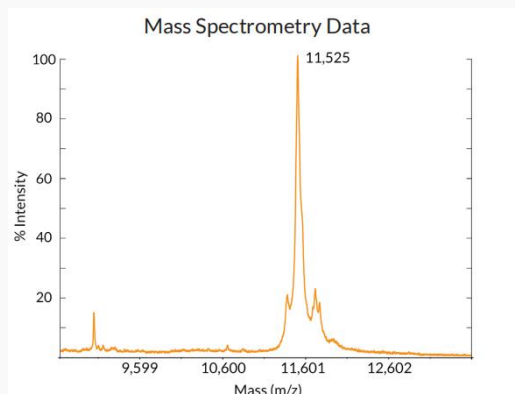
mRNA Refseq NM_001005781

Protein Refseq NP_001005781

MIM 601912

UniProt ID P63165

LCMS



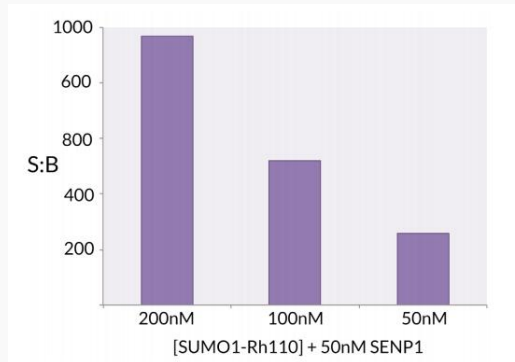
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Analysis of SUMO1 Rhodamine 110 using LCMS intact mass determination indicates purity greater than 98%.

**Signal to
Background**




The signal to background ratio was determined by 100% hydrolysis of 200nM, 100nM, and 50nM SUMO1-Rhodamine 110 to liberate the quenched conjugate.

Assay Buffer: 50mM HEPES pH7.5, 1mM TCEP, 0.1mg/ml BSA.

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