

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

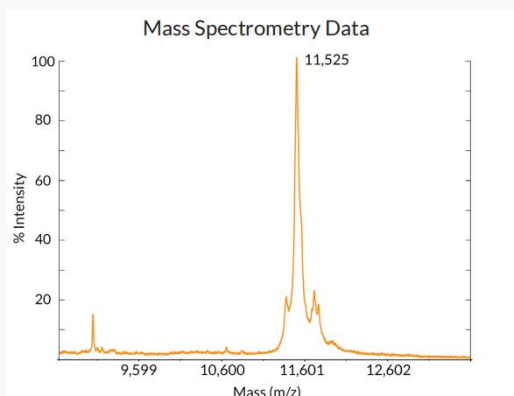
mRNA Refseq NM_001005781

Protein Refseq NP_001005781

MIM 601912

UniProt ID P63165

LCMS



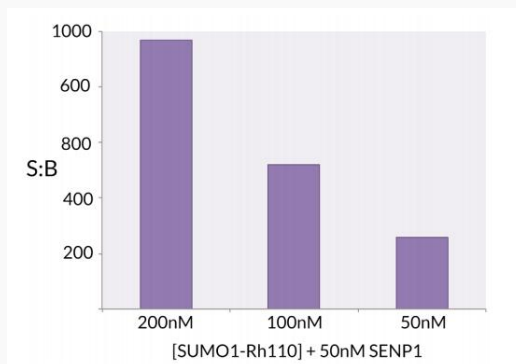
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Analysis of SUMO1 Rhodamine 110 using LCMS intact mass determination indicates purity greater than 98%.

**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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