

Recombinant Human SUMO2 Protein, Rhodamine 110 Labeled

Cat. No. SUMO2-05H **Lot. No.** (See product label)

SPECIFICATION

Product Overview

This SUMO2 substrate is C-terminally derivatized with a bis-Glycine-Rhodamine-110 fluorophore. The bis-Gly-Rh110 remains quenched until the amide bond between the C-terminal glycine and the rhodamine compound is hydrolyzed. The efficiency of quenching combined with the powerful signal upon hydrolysis yields an unparalleled signal-to-background. SUMO2-Rh110 can be used to study the deSUMOylating activity of hydrolases SENP1 And SENP2, among other deSUMOylating enzymes. The substrate activity of SUMO2-Rhodamine110 was determined by measuring the SENP1 catalyzed release of unquenched Gly-Rh-110.

Species Human

Source E.coli

Description

SUMO1 is a Ubiquitin-like protein (UBL) that can be covalently attached to proteins as a monomer or as 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 an E3 ligase such as PIAS1-4, RANBP2, CBX4 or ZNF451. 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 SUMO2 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 rhodamine compound is hydrolyzed. The efficiency of quenching combined with the powerful signal upon hydrolysis yields an unparalleled

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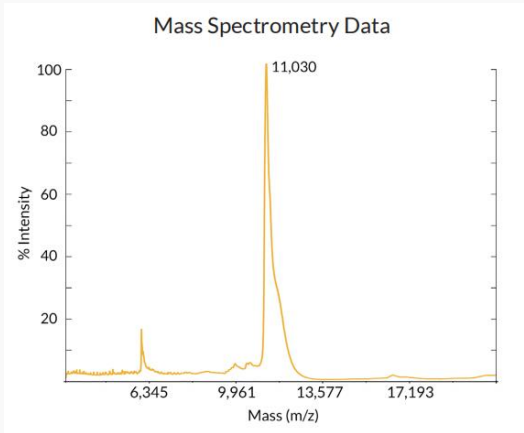
	signal-to-background.
Conjugation/Label	Rhodamine 110
Molecular Mass	11.03 kDa
Purity	>97% by LCMS
Applications	SUMO2-Rh110 can be used to study the deSUMOylating activity of hydrolases SENP1 and SENP2, among other deSUMOylating enzymes. The substrate activity of SUMO2-Rhodamine110 was determined by measuring the SENP1 catalyzed release of unquenched Gly-Rh-110. The Excitation 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	140uM, 1.5 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.

GENE INFORMATION

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Gene Name	SUMO2 SMT3 suppressor of mif two 3 homolog 2 (<i>S. cerevisiae</i>) [<i>Homo sapiens</i>]
Official Symbol	SUMO2
Synonyms	SUMO2; SMT3 suppressor of mif two 3 homolog 2 (<i>S. cerevisiae</i>); SMT3 (suppressor of mif two 3, yeast) homolog 2 , SMT3 suppressor of mif two 3 homolog 2 (yeast) , SMT3H2; small ubiquitin-related modifier 2; SMT3B; sentrin 2; SMT3 homolog 2; ubiquitin-like protein SMT3A; ubiquitin-like protein SMT3B; small ubiquitin-like modifier 2; HSMT3; SUMO3; Smt3A; SMT3H2; MGC117191;
Gene ID	6613
mRNA Refseq	NM_001005849
Protein Refseq	NP_001005849
MIM	603042
UniProt ID	P61956
LCMS	 Mass Spectrometry Data

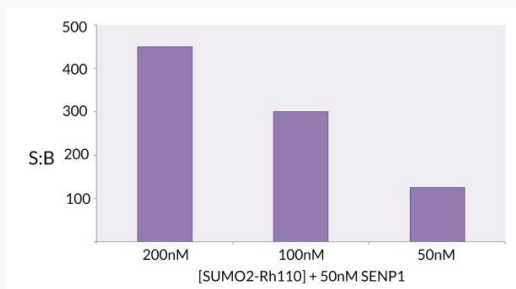
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Analysis of SUMO2 Rhodamine 110 using LCMS intact mass determination indicates purity greater than 98%, and a molecular weight of 11,030 daltons.

Signal to Background



The signal to background ratio was determined by 100% hydrolysis of 200nM, 100nM, and 50nM SUMO2-Rhodamine 110 to liberate the quenched conjugate.

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

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