SUMO2-Rhodamine 110

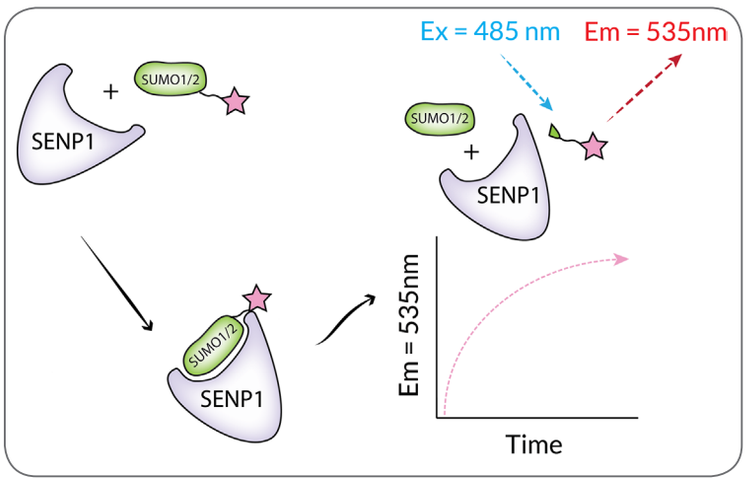
Cat. No. SBB-PS0029
Lot. No. 163060029

South Bay Bío

SUMO2-Rhodamine 110

Ubiquitin-like protein 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 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-Rh110. This protein was expressed in *E.coli*.



Product Information

Quantity: 50µg **Molecular Weight:** 11.03 kDa

Concentration: 140uM, 1.5 mg/mL

Purity: >97% by LCMS

Excitation/Emission = 485nm/535nm

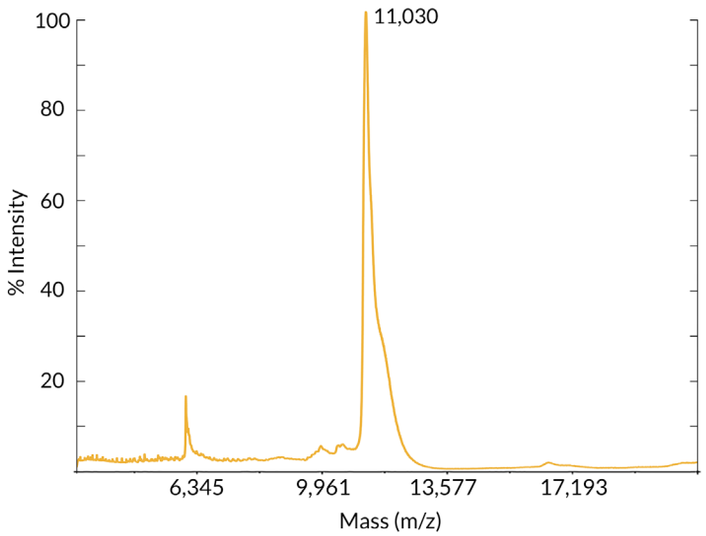
Storage Buffer: 50mM Hepes pH 7.5, 100mM NaCl

Storage: -80C, Avoid multiple freeze / thaw

Usage: Typical experimental concentration 50-500 nM.

Quality Control and Performance Data

Mass Spectrometry Data



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

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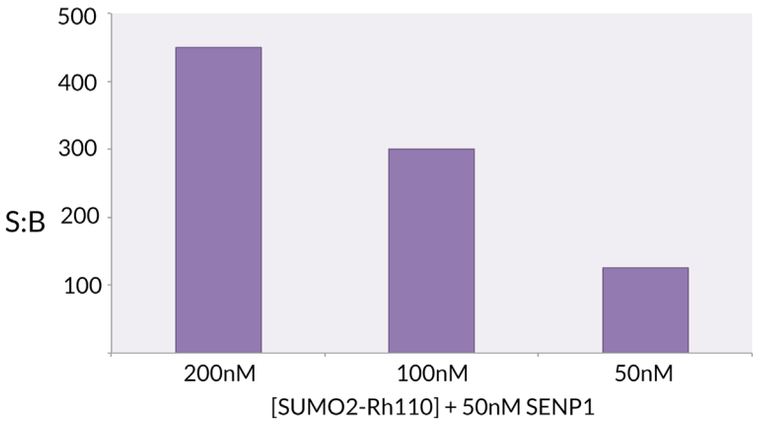

Signal to Background.
The signal to background ratio was determined by 100% hydrolysis of 200nM, 100nM, and 50nM SUMO2-Rhodamine 110 to liberate the quenched conjugate. Assay Buffer: 50mM HEPES pH7.5, 1mM TCEP, 0.1mg/ml BSA.

References

1) Mahajan R., Delphin C., Guan T., Gerace L., Melchior F. "A small ubiquitin-related polypeptide involved in targeting RanGAP1 to nuclear pore complex protein RanBP2." Cell 88:97-107(1997)

2) Kamitani T., Nguyen H.P., Yeh E.T.H. "Preferential modification of nuclear proteins by a novel ubiquitin-like molecule." J. Biol. Chem. 272:14001-14004(1997)

3) Meulmeester E., Kunze M., Hsiao H.H., Urlaub H., Melchior F. "Mechanism and consequences for paralog-specific sumoylation of ubiquitin-specific protease 25." Mol. Cell 30:610-619(2008)

4) Tatham M.H., Geoffroy M.C., Shen L., Plechanovova A., Hattersley N., Jaffray E.G., Palvimo J.J., Hay R.T. "RNF4 is a poly-SUMO-specific E3 ubiquitin ligase required for arsenic-induced PML degradation." Nat. Cell Biol. 10:538-546(2008)

5) Dai X.Q., Kolic J., Marchi P., Sipione S., Macdonald P.E. "SUMOylation regulates Kv2.1 and modulates pancreatic beta-cell excitability." J. Cell Sci. 122:775-779(2009)

6) Cong L., Pakala S.B., Ohshiro K., Li D.Q., Kumar R. "SUMOylation and SUMO-interacting motif (SIM) of metastasis tumor antigen 1 (MTA1) synergistically regulate its transcriptional repressor function."J. Biol. Chem. 286:43793-43808(2011)

7) Sun X., Li J., Dong F.N., Dong J.T. "Characterization of nuclear localization and SUMOylation of the ATBF1 transcription factor in epithelial cells." PLoS ONE 9:E92746-E92746(2014)

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