SUMO-1, human recombinant

CATALOG #: 4941-100 100 µg
4941-1000 1 mg

LOT #: _____

SOURCE: *E. coli*

PURITY: **>** 95% as determined by SDS-PAGE

ENDOTOXIN: **<** 0.1 ng/µg of human SUMO-1

MOLECULAR WEIGHT: 11.1 kDa

PHYSICAL APPEARANCE: Liquid

FORMULATION: In 50 mM HEPES, pH 8.0, plus 150 mM NaCl, 1 mM DTT.

STORAGE CONDITIONS: Store at –80˚C. Stable for 12 months. Avoid freeze/thaw cycles.

DESCRIPTION:

SUMO modification has been implicated in functions such as nuclear transport, chromosome segregation and transcriptional regulation. SUMO1 functions in a manner similar to ubiquitin in that it is bound to target proteins as part of a post-translational modification system. Still, unlike ubiquitin which targets proteins for degradation, SUMO1 is involved in a variety of cellular processes, for example nuclear transport, transcriptional regulation, apoptosis, and protein stability. SUMO1 is not active until the last four amino acids of the carboxy-terminus are cleaved off. The active recombinant SUMO-1 protein is derived from the precursor pro-SUMO-1 (Accession # NM_003352). Human SUMO-1 shares 46% and 47% identity with SUMO-2 and SUMO-3 respectively. SUMOylation can occur without the requirement of a specific E3 ligase activity, where SUMO is transferred directly from UbcH9 to specific substrates. SUMOylated substrates are primarily localized to the nucleus (RanGAP-1, RANBP2, PML, p53, Sp100, HIPK2) but there are also cytosolic substrates (IκBα, GLUT1, GLUT4).

USAGE: Typical in vitro concentrations for conjugate formation are 10-50 µM depending on conditions.

FOR RESEARCH USE ONLY! Not to be used on humans.

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