

Nematode SUMO Antibody (N-term) Blocking Peptide
Synthetic peptide
Catalog # BP1288a**Specification**

Nematode SUMO Antibody (N-term) Blocking Peptide - Product Information

Primary Accession [P55853](#)
Other Accession [NP_490842](#)

Nematode SUMO Antibody (N-term) Blocking Peptide - Additional Information

Gene ID 266820

Other Names

Small ubiquitin-related modifier, SUMO, Ubiquitin-like protein SMT3, smo-1, smt3, sumo

Target/Specificity

The synthetic peptide sequence used to generate the antibody [AP1288a](/product/products/AP1288a) was selected from the N-term region of human Nematode SUMO . A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

Nematode SUMO Antibody (N-term) Blocking Peptide - Protein Information

Name smo-1 {ECO:0000312|WormBase:K12C11.2}

Function

Ubiquitin-like protein which can be covalently attached to target lysines as a monomer. Does not seem to be involved in protein degradation and may function as an antagonist of ubiquitin in the degradation process (PubMed:[11806825](http://www.uniprot.org/citations/11806825)). Plays a role in a number of cellular processes such as nuclear transport, DNA replication and repair, mitosis and signal transduction (PubMed:[11806825](http://www.uniprot.org/citations/11806825), PubMed:[25475837](http://www.uniprot.org/citations/25475837)). Covalent attachment to its substrates requires prior activation by the E1 complex aos-1-uba-2 and linkage to the E2 enzyme ubc-9, and can be promoted by an E3 ligase such as gei-17 (PubMed:[15107848](http://www.uniprot.org/citations/15107848), PubMed:[16701625](http://www.uniprot.org/citations/16701625)). Required for

embryonic development, fertility, vulval morphogenesis and inhibition of vulval cell fates (PubMed:15466489, PubMed:15689373, PubMed:15990876, PubMed:24349540). Probably by sumoylating bet-1, prevents muscle myosin depletion in aging adults probably by preventing myoblast growth factor receptor egl-15 overexpression (PubMed:24285704). Plays a role in the attenuation of the let-60/ras pathway (PubMed:24349540, PubMed:24285704). Plays a role in male tail tip morphogenesis (PubMed:21408209). Plays a role in the mitochondrial stress response with its covalent attachment to transcription factors dve-1 and aft-1 negatively regulating the mitochondrial unfolded protein response (PubMed:30642431).

Cellular Location

Cytoplasm. Nucleus. Cytoplasm, cytoskeleton, spindle. Chromosome. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Note=At the first embryonic mitotic division, enriched in the nucleus and released to the cytoplasm when the nuclear envelope breaks down at the start of mitosis. During mitosis, localizes to the metaphase plate and to the centrosomal region. Also localizes to segregating chromosomes at the beginning of anaphase. At late anaphase and telophase, observed in the spindle midzone and in the two daughter nuclei

Nematode SUMO Antibody (N-term) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Blocking Peptides](#)

Nematode SUMO Antibody (N-term) Blocking Peptide - Images

Nematode SUMO Antibody (N-term) Blocking Peptide - Background

Covalent attachment of one protein to another is one of the more prominent posttranslational modifications in respects to size and ubiquity ? to which eukaryotic proteins are subject. Ubiquitin is the most familiar of the protein modifiers and its activation and transfer to target proteins has been studied for over two decades. Recently a new group of ubiquitin-like (Ubl) proteins have come to light. One of the most intriguing of them is SUMO (small ubiquitin-like modifier, ~12kDa) also known as Sentrin. SUMO family has been described in vertebrates: SUMO-1 and the closest homologs SUMO-2 and SUMO-3. SUMO have been shown to bind and regulate mammalian SP-RINGS (such as Mdm2, PIAS and PML), RanGAP1, RanBP2, p53, p73, HIPK2, TEL, c-Jun, Fas, Daxx, TNFRI, Topo-I, Topo-II, WRN, Sp100, Ikb-alpha, Androgen receptor (AR), GLUT1/4, Drosophila Ttk69, Dorsal, CaMK, yeast Septins, and viral CMV-IE1/2, EBV-BZLF1, HPV/BPV-E1. These bindings implicate SUMO in the stabilization of the target proteins and/or their localization to subcellular complexes. SUMO research enters now an exciting phase with a promise to help understanding how cells orchestrate the complexities of rapidly regulating protein level and activity.

Nematode SUMO Antibody (N-term) Blocking Peptide - References

Fraser, A.G., et al., Nature 408(6810):325-330 (2000).Lapenta, V., et al., Genomics 40(2):362-366 (1997).