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Anti-SUMO (MOUSE) Monoclonal Antibody
SUMO Antibody
Catalog # ASR4159

Specification

Anti-SUMO (MOUSE) Monoclonal Antibody - Product Information

Host	**Mouse**
Conjugate	**Unconjugated**
Target Species	**Yeast**
Clonality	**Monoclonal**
Application	**WB, IHC, E, I, LCI**
Application Note	**This monoclonal antibody reacts with yeast SUMO (Smt3) tested by western blot and ELISA. Although not tested, this antibody is likely functional in immunohistochemistry and immunoprecipitation. Using the specified conditions, this antibody may recognize other prominent intrinsic bands (UBLs or conjugates). Other intrinsic bands are readily detectable at lower dilutions.**
Physical State	**Liquid (sterile filtered)**
Buffer	**0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2**
Immunogen	**This antibody was produced in mice by repeated immunizations with full-length recombinant yeast SUMO protein.**
Preservative	**0.01% (w/v) Sodium Azide**

Anti-SUMO (MOUSE) Monoclonal Antibody - Additional Information

Gene ID 852122

Other Names
852122

Purity
This product is a monoclonal antibody purified from tissue culture supernatant fluid by Protein A chromatography.

Storage Condition
Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.

Precautions Note
This product is for research use only and is not intended for therapeutic or diagnostic applications.

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Anti-SUMO (MOUSE) Monoclonal Antibody - Protein Information

Name SMT3

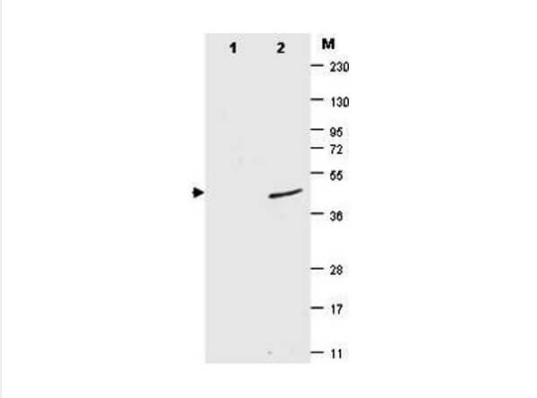
Function
Not known; suppressor of MIF2 mutations.

Anti-SUMO (MOUSE) Monoclonal Antibody - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-SUMO (MOUSE) Monoclonal Antibody - Images



Western blot of ySUMO fusion protein. Anti-ySUMO antibody, generated by immunization with recombinant yeast SUMO, was tested by western blot against a SUMO-GFP fusion protein (lane 2). While the actual molecular weight of the fusion protein is 39 kDa, the protein migrates as a 49 kDa band (arrowhead). No reactivity is seen for lane 1 which contains His-tagged GFP protein. The membrane was blocked using BLOTTO. Primary antibody was used at a 1:1,000 dilution in BLOTTO. The membrane was washed and reacted with a 1:10,000 dilution of IRDye® 800 Conjugated Affinity Purified Goat-anti-Mouse IgG (H&L) MX10 (800 nm channel). Molecular weight estimation was made by comparison to prestained MW markers indicated at the right (lane M, 700 nm channel). Other detection systems will yield similar results.

Anti-SUMO (MOUSE) Monoclonal Antibody - Background

Covalent modification of cellular proteins by the ubiquitin-like modifier SUMO (small ubiquitin-like modifier) regulates various cellular processes, such as nuclear transport, signal transduction, stress responses and cell cycle progression. But, in contrast to ubiquination, sumoylation does not tag proteins for degradation by the 26S proteasome, but rather seems to enhance stability or modulate their subcellular compartmentalization. Ubiquitin-like proteins fall into two classes: the first class, ubiquitin-like modifiers (UBLs) function as modifiers in a manner analogous to that of ubiquitin. Examples of UBLs are SUMO, Rub1 (also called Nedd8), Apg8 and Apg12. Proteins of the second

class include parkin, RAD23 and DSK2, are designated ubiquitin-domain proteins (UDPs). These proteins contain domains that are related to ubiquitin but are otherwise unrelated to each other. In contrast to UBLs, UDPs are not conjugated to other proteins. Once covalently attached to cellular targets, SUMO regulates protein:protein and protein:DNA interactions, as well as localization and stability of the target protein. Sumoylation occurs in most eukaryotic systems, and SUMO is highly conserved from yeast to humans. Where invertebrates have only a single SUMO gene termed SMT3, three members of the SUMO family have been identified in vertebrates: SUMO-1 and the close homologues SUMO-2 and SUMO-3. SUMO has been called SMT3 (yeast), sentrin, PIC1, GMP1 and UBL1. SUMO has 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-a, 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 has an apparent molecular weight of ~12kDa and human SUMO-1 (a 101 amino acid polypeptide) shares 50% sequence identity with SUMO-2 and SUMO-3 and with yeast SMT3. SUMO and ubiquitin only show about 18% homology, but both possess a common three-dimensional structure characterized by a tightly packed globular fold with b-sheets wrapped around an a-helix.