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Anti-SUMO-3 (RABBIT) Antibody
SUMO3 Antibody
Catalog # ASR4399

Specification

Anti-SUMO-3 (RABBIT) Antibody - Product Information

Host	**Rabbit**
Conjugate	**Unconjugated**
Target Species	**Human**
Reactivity	**Human**
Clonality	**Polyclonal**
Application	**WB, E, I, LCI**
Application Note	**This purified polyclonal antibody reacts with human SUMO-3 by western blot and ELISA. Although not tested, this antibody is likely functional in immunohistochemistry and immunoprecipitation. This antibody using the specified conditions may recognize other prominent intrinsic bands (UBLs or conjugates). Other intrinsic bands are readily detectable at lower dilutions. Specific conditions for reactivity should be optimized by the end user. Expect a band approximately 11.6 kDa in size corresponding to human SUMO-3 by western blotting in the appropriate cell lysate or extract.**
Physical State	**Lyophilized**
Buffer	**0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2**
Immunogen	**This purified antibody was prepared from rabbit serum after repeated immunizations with recombinant human SUMO-3 protein.**
Reconstitution Volume	**100 µL**
Reconstitution Buffer	**Restore with deionized water (or equivalent)**
Preservative	**0.01% (w/v) Sodium Azide**

Anti-SUMO-3 (RABBIT) Antibody - Additional Information

Gene ID 6612

Other Names
6612

Purity
This product is an IgG fraction antibody purified from monospecific antiserum by a multi-step process which includes delipidation, salt fractionation and ion exchange chromatography followed by extensive dialysis against the buffer stated above. Assay by immunoelectrophoresis resulted in

a single precipitin arc against anti-Rabbit Serum.

Storage Condition
Store vial at 4° C prior to restoration. For extended storage aliquot contents and freeze at -20° C or below. 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.

Anti-SUMO-3 (RABBIT) Antibody - Protein Information

Name SUMO3 (HGNC:11124)

Function
Ubiquitin-like protein which can be covalently attached to target lysines either as a monomer or as a lysine-linked polymer. Does not seem to be involved in protein degradation and may function as an antagonist of ubiquitin in the degradation process. Plays a role in a number of cellular processes such as nuclear transport, DNA replication and repair, mitosis and signal transduction. Covalent attachment 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 or CBX4 (PubMed:11451954, PubMed:18538659, PubMed:21965678). Plays a role in the regulation of sumoylation status of SETX (PubMed:24105744).

Cellular Location
Cytoplasm. Nucleus. Nucleus, PML body

Tissue Location
Expressed predominantly in liver.

Anti-SUMO-3 (RABBIT) 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-3 (RABBIT) Antibody - Images

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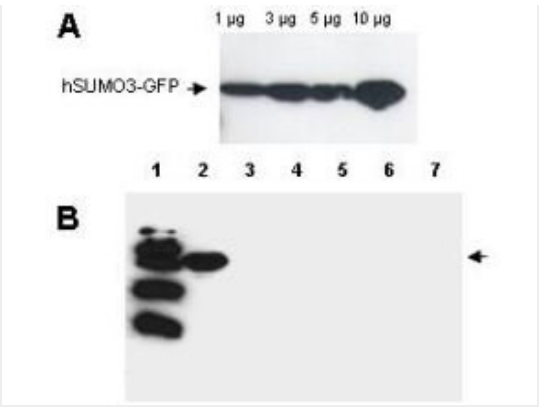

Western blot analysis is shown using Rockland's Affinity Purified anti-Human SUMO-3 antibody to detect GFP-SUMO fusion proteins (arrowheads). Panel A. Increasing concentrations of human GFP-SUMO-3 were run on a SDS-PAGE, transferred onto nitrocellulose, and blocked for 1 hour with 5% non-fat dry milk in TTBS, and probed overnight at 4°C with a 1:1000 dilution of anti-hSUMO-3 antibody in 5% non-fat dry milk in TTBS. Detection occurred using a 1:1,000 dilution of HRP-labeled Donkey anti-Rabbit IgG for 1 hour at room temperature. A chemiluminescence system was used for signal detection (Roche). Panel B. Specificity of the antibody was confirmed by SDS-PAGE of 5 µg of various GFP-SUMO constructs followed by transfer onto nitrocellulose. Lanes: 1. MW marker, 2. GFP-human SUMO-3, 3. GFP-human SUMO-1, 4. GFP-yeast SUMO, 5. GFP-Arabidopsis thaliana, SUMO-1, 6. GFP- Arabidopsis thaliana SUMO-2, 7. GFP-tomato SUMO. After blocking for 1 hour with 5% non-fat dry milk in TTBS, the blot was probed overnight at 4°C with anti-hSUMO-3 antibody diluted and detected as above. Only the human GFP-SUMO-3 band was visualized by chemiluminescence, and no crossreactivity with other SUMO family members was observed.

Anti-SUMO-3 (RABBIT) 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 human. 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.