Anti-SUMO (RABBIT) Antibody - 200-401-441

Code: 200-401-441 **Size:** 500 µg

Product Description: Anti-SUMO (RABBIT) Antibody - 200-401-441

Concentration: 5.0 mg/mL by UV absorbance at 280 nm

PhysicalState: Lyophilized

Label	Unconjugated
Host	Rabbit
Gene Name	SMT3
Species Reactivity	human
Buffer	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Stabilizer	None
Preservative	0.01% (w/v) Sodium Azide
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.
Synonyms	GAP modifying protein 1 antibody, GMP 1 antibody, GMP1 antibody, PIC 1 antibody, PIC1 antibody, SENP2 antibody, Sentrin 1 antibody, Sentrin antibody, Small ubiquitin related modifier 1 antibody
Application Note	This purified polyclonal antibody reacts with human SUMO 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. For immunoblotting a 1:2,000 dilution is recommended. An 11.6 kDa band corresponding to human SUMO is detected. Most human cell lysates can be used as a positive control without induction or stimulation. For ELISA a 1:4,000 to 1:20,000 dilution is recommended. Researchers should determine optimal titers for other applications.
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
Purity And Specificity	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.
Assay Dilutions	User Optimized
ELISA	1:5,000 - 1:25,000
WESTERN BLOT	1:500 - 1:3,000
OTHER ASSAYS	User Optimized
Expiration	Expiration date is one (1) year from date of opening.
Immunogen	This purified antibody was prepared from rabbit serum after repeated immunizations with recombinant human SUMO protein.
General Reference	Muller, S. , Hoege, C. , Pyrowolakis, G. and Jentsch, S. (2001) SUMO, ubiquitin's mysterious cousin. Nat Rev Mol Cell Biol, 2(3): 202-10. Hochstrasser, M. (2001) SP-RING for SUMO: new functions bloom for a ubiquitin-like protein. Cell, 107(1): 5-8.

Kahyo, T.,Nishida, T. and Yasuda, H. (2001) Involvement of PIAS1 in the sumoylation of tumor suppressor p53. Mol Cell, 8(3) 713-8.

Related Products

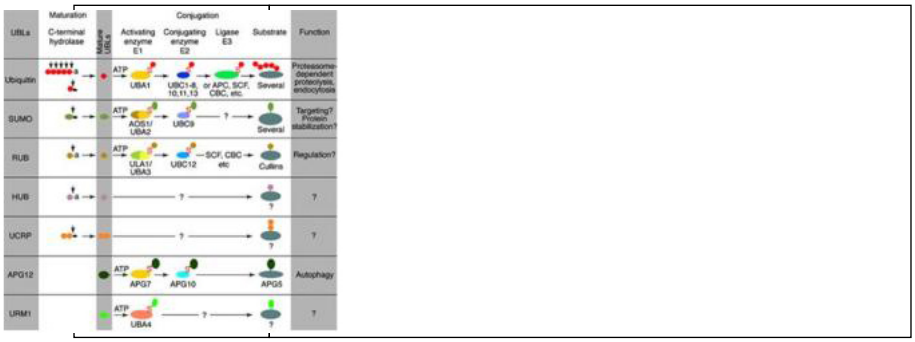
200-301-428	Anti-SUMO (MOUSE) Monoclonal Antibody - 200-301-428
200-401-428	Anti-SUMO (Yeast) (RABBIT) Antibody - 200-401-428
200-401-437	Anti-APG12 (RABBIT) Antibody - 200-401-437
200-401-439	Anti-APG8 (RABBIT) Antibody - 200-401-439

Related Links

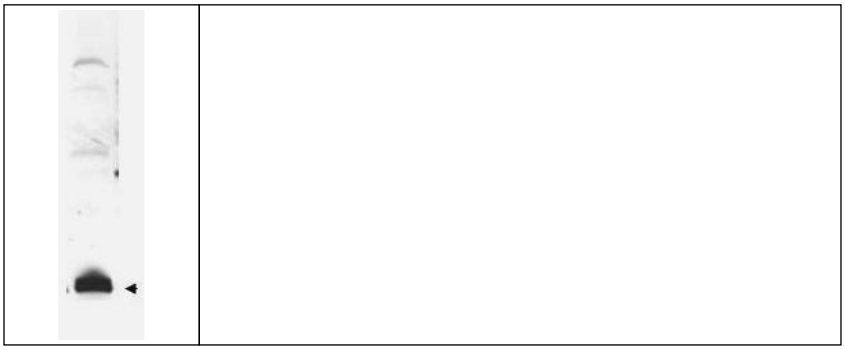
UniProtKB	http://www.uniprot.org/uniprot/Q12306
NCBI - P63165.1	http://www.ncbi.nlm.nih.gov/protein/P63165.1
UniProt - Q12306	http://www.uniprot.org/uniprot/Q12306
Gene ID - 7341	http://www.ncbi.nlm.nih.gov/gene/7341

Images

1 Most modifiers mature by proteolytic processing from inactive precursors (a; amino acid). Arrowheads point to the cleavage sites. Ubiquitin is expressed either as polyubiquitin or as a fusion with ribosomal proteins. Conjugation requires activating (E1) and conjugating (E2) enzymes that form thiolesters (S) with the modifiers. Modification of cullins by RUB involves SCF(SKP1/cullin-1/F-box protein) /CBC(cullin-2/elongin B/elonginC) -like E3 enzymes that are also involved in ubiquitination. In contrast to ubiquitin, the UBLs do not seem to form multi-UBL chains. UCRP(ISG15) resembles two ubiquitin moieties linked head-to-tail. Whether HUB1 functions as a modifier is currently unclear. APG12 and URM1 are distinct from the other modifiers because they are unrelated in sequence to ubiquitin. Data contributed by S.Jentsch.



2 Western blot of hSUMO fusion protein. Anti-SUMO antibody, generated by immunization with recombinant human SUMO, was tested by western blot against a SUMO-GFP fusion protein after cleavage by proteases. Dilution of the antibody between 1:1,000 and 1:5,000 showed strong reactivity specifically with the SUMO portion of the fusion protein (arrowhead). In this blot the antibody was used at a 1:2000 dilution incubated overnight at 4° C in 5% non-fat dry milk in TTBS. Detection occurred using a 1:2000 dilution of HRP-labeled Donkey anti-Rabbit IgG (code # 611-703-127) for 1 hour at room temperature. A chemiluminescence system was used for signal detection (Roche). Other detection systems will yield similar results. Data contributed by M. Malakhov, www.lifesensors.com, personal communication.



Disclaimer

This product is for research use only and is not intended for therapeutic or diagnostic applications. Please contact a technical service representative for more information. All products of animal origin manufactured by Rockland Immunochemicals are derived from starting materials of North American origin. Collection was performed in United States Department of Agriculture (USDA) inspected facilities and all materials have been inspected and certified to be free of disease and suitable for exportation. All properties listed are typical characteristics and are not specifications. All suggestions and data are offered in good faith but without guarantee as conditions and methods of use of our products are beyond our control. All claims must be made within 30 days following the date of delivery. The prospective user must determine the suitability of our materials before adopting them on a commercial scale. Suggested uses of our products are not recommendations to use our products in violation of any patent or as a license under any patent of Rockland Immunochemicals, Inc. If you require a commercial license to use this material and do not have one, then return this material, unopened to: Rockland Inc., P.O. BOX 5199, Limerick, Pennsylvania, USA.