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SUMO1 Antibody
Purified Mouse Monoclonal Antibody (Mab)
Catalog # AM1200b

Specification

SUMO1 Antibody - Product Information

Application	**WB,E**
Primary Accession	P63165
Reactivity	**Human**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**Mouse IgG1**

SUMO1 Antibody - Additional Information

Gene ID 7341

Other Names
Small ubiquitin-related modifier 1, SUMO-1, GAP-modifying protein 1, GMP1, SMT3 homolog 3, Sentrin, Ubiquitin-homology domain protein PIC1, Ubiquitin-like protein SMT3C, Smt3C, Ubiquitin-like protein UBL1, SUMO1, SMT3C, SMT3H3, UBL1

Target/Specificity
Purified recombinant GST-SUMO1 protein was used as immunogen.

Dilution
WB~~1:500~1000
E~~Use at an assay dependent concentration.

Format
Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS.

Storage
Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
SUMO1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

SUMO1 Antibody - Protein Information

Name SUMO1

Synonyms SMT3C, SMT3H3, UBL1

Function Ubiquitin-like protein that can be covalently attached to proteins as a monomer or a lysine-linked polymer. Covalent attachment via an isopeptide bond to its substrates requires prior

activation by the E1 complex SAE1-SAE2 and linkage to the E2 enzyme UBE2I, and can be promoted by E3 ligases such as PIAS1-4, RANBP2 or CBX4. This post- translational modification on lysine residues of proteins plays a crucial role in a number of cellular processes such as nuclear transport, DNA replication and repair, mitosis and signal transduction. Involved for instance in targeting RANGAP1 to the nuclear pore complex protein RANBP2. Covalently attached to the voltage-gated potassium channel KCNB1; this modulates the gating characteristics of KCNB1 (PubMed:19223394). Polymeric SUMO1 chains are also susceptible to polyubiquitination which functions as a signal for proteasomal degradation of modified proteins. May also regulate a network of genes involved in palate development. Covalently attached to ZFHX3 (PubMed:24651376).

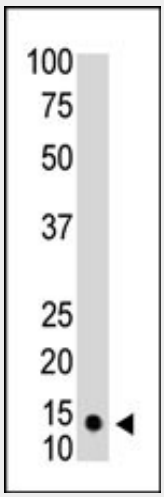
Cellular Location
Nucleus membrane. Nucleus speckle {ECO:0000250|UniProtKB:P63166}. Cytoplasm. Nucleus, PML body. Cell membrane. Nucleus. Note=Recruited by BCL11A into the nuclear body (By similarity). In the presence of ZFHX3, sequesterd to nuclear body (NB)-like dots in the nucleus some of which overlap or closely associate with PML body (PubMed:24651376) {ECO:0000250|UniProtKB:P63166, ECO:0000269|PubMed:24651376}

SUMO1 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

SUMO1 Antibody - Images



The anti-SUMO1 monoclonal antibody(Cat. #AM1200b) is used in Western blot to detect SUMO1 in HL60 cell lysate.

SUMO1 Antibody - Background

This gene encodes a protein that is a member of the SUMO (small ubiquitin-like modifier) protein

family. It functions in a manner similar to ubiquitin in that it is bound to target proteins as part of a post-translational modification system. However, unlike ubiquitin which targets proteins for degradation, this protein is involved in a variety of cellular processes, such as nuclear transport, transcriptional regulation, apoptosis, and protein stability. It is not active until the last four amino acids of the carboxy-terminus have been cleaved off. Several pseudogenes have been reported for this gene. Alternate transcriptional splice variants encoding different isoforms have been characterized.

SUMO1 Antibody - References

Association Between Polymorphisms at Small Ubiquitin-Like Modifier 1 and Nonsyndromic Orofacial Clefts in Western China. Jia ZL, et al. DNA Cell Biol, 2010 Aug 25. PMID 20738159. Maternal genes and facial clefts in offspring: a comprehensive search for genetic associations in two population-based cleft studies from Scandinavia. Jugessur A, et al. PLoS One, 2010 Jul 9. PMID 20634891. Variation at the NFATC2 Locus Increases the Risk of Thiazolinedinedione-Induced Edema in the Diabetes REduction Assessment with ramipril and rosiglitazone Medication (DREAM) Study. Bailey SD, et al. Diabetes Care, 2010 Jul 13. PMID 20628086. Association between genetic variants of reported candidate genes or regions and risk of cleft lip with or without cleft palate in the polish population. Mostowska A, et al. Birth Defects Res A Clin Mol Teratol, 2010 Jul. PMID 20544801. [Effect of SUMO-1 on mitochondria subcellular localization of alpha-synuclein and its degradation via ubiquitin-proteasome system] Chen T, et al. Zhonghua Yi Xue Yi Chuan Xue Za Zhi, 2010 Jun. PMID 20533263.

SUMO1 Antibody - Citations

- Gold nanoparticles as a platform for creating a multivalent poly-SUMO chain inhibitor that also augments ionizing radiation.
- Entropy-driven mechanism of an E3 ligase.
- Stability of thioester intermediates in ubiquitin-like modifications.