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SUMO2/3 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP1224a

Specification

SUMO2/3 Antibody (C-term) - Product Information

Application	**IF, WB, IHC-P,E**
Primary Accession	P55854
Other Accession	Q7SZ22, Q5XIF4, Q9Z172, Q6DI05, Q17QV3, P61959, P61958, P61957, Q2PFW2, P61956, Q6DHL4, Q6LDZ8, Q5ZJM9, P61955, Q6NV25, Q6GPW2, Q7ZTK7
Reactivity	**Human, Mouse, Rat**
Predicted	**Xenopus, Zebrafish, Bovine, Chicken, Hamster, Monkey, Pig**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Antigen Region	**49-81**

SUMO2/3 Antibody (C-term) - Additional Information

Gene ID 6612

Other Names
Small ubiquitin-related modifier 3, SUMO-3, SMT3 homolog 1 {ECO:0000312|HGNC:HGNC:11124}, SUMO-2, Ubiquitin-like protein SMT3A, Smt3A, SUMO3 (HGNC:11124)

Target/Specificity
This SUMO2/3 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 49-81 amino acids from the C-terminal region of human SUMO2/3.

Dilution
IF~~1:100
WB~~1:2000
IHC-P~~1:50~100

Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

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
SUMO2/3 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

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SUMO2/3 Antibody (C-term) - 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

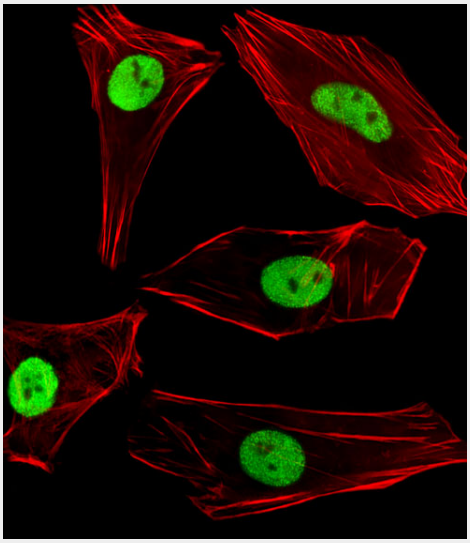
Tissue Location
Expressed predominantly in liver.

SUMO2/3 Antibody (C-term) - 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

SUMO2/3 Antibody (C-term) - Images



Fluorescent image of SH-SY5Y cells stained with SUMO2/3 Antibody (C-term) (Cat#AP1224a).

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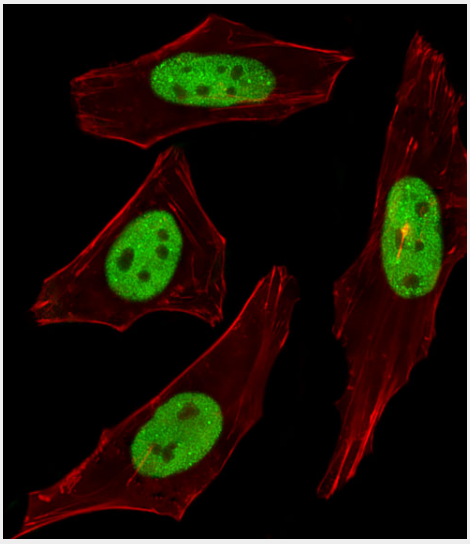
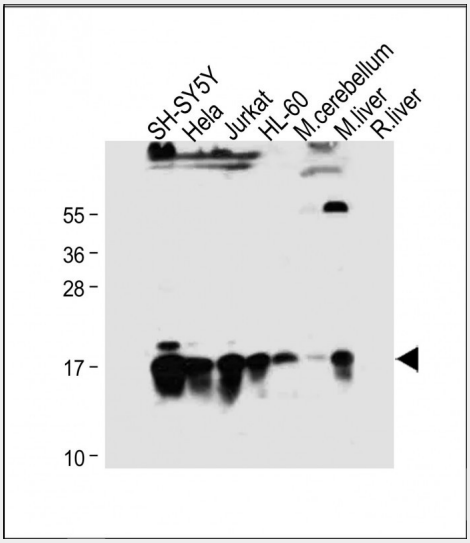
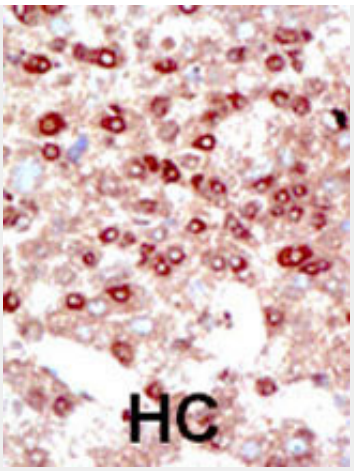
AP1224a was diluted at 1:100 dilution. An Alexa Fluor 488-conjugated goat anti-rabbit lgG at 1:400 dilution was used as the secondary antibody (green). Cytoplasmic actin was counterstained with Alexa Fluor® 555 conjugated with Phalloidin (red).



Fluorescent image of Hela cells stained with SUMO2/3 Antibody (C-term) (Cat#AP1224a). AP1224a was diluted at 1:100 dilution. An Alexa Fluor 488-conjugated goat anti-rabbit lgG at 1:400 dilution was used as the secondary antibody (green). Cytoplasmic actin was counterstained with Alexa Fluor® 555 conjugated with Phalloidin (red).



All lanes : Anti-SUMO2/3 Antibody (C-term) at 1:2000 dilution Lane 1: SH-SY5Y whole cell lysate Lane 2: Hela whole cell lysate Lane 3: Jurkat whole cell lysate Lane 4: HL-60 whole cell lysate Lane 5: Mouse cerebellum tissue lysate Lane 6: Mouse liver tissue lysate Lane 7: Rat liver tissue lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 12 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.

SUMO2/3 Antibody (C-term) - Background

SUMO2 and SUMO3 are members of the SUMO (small ubiquitin-like modifier) protein family. This protein family 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. In vertebrates, three members of the SUMO family have been described, SUMO 1 and the functionally distinct homologues SUMO 2 and SUMO 3. SUMO modification sites present in the N terminal regions of SUMO 2 and SUMO 3 are utilized by SAE1/SAE2 (SUMO E1) and Ubc9 (SUMO E2) to form polymeric chains of SUMO 2 and SUMO 3 on protein substrates, a property not shared by SUMO 1.

SUMO2/3 Antibody (C-term) - References

Strausberg, R.L., et al., Proc. Natl. Acad. Sci. U.S.A. 99(26):16899-16903 (2002).
Lapenta, V., et al., Genomics 40(2):362-366 (1997).

SUMO2/3 Antibody (C-term) - Citations

- TRIM11 Prevents and Reverses Protein Aggregation and Rescues a Mouse Model of Parkinson's Disease
- The SUMOylation landscape of renal cortical collecting duct cells.
- HSP70-Hrd1 axis precludes the oncorepressor potential of N-terminal misfolded Blimp-1s in lymphoma cells.
- TRIB3 Promotes APL Progression through Stabilization of the Oncoprotein PML-RARα and Inhibition of p53-Mediated Senescence.
- Adenovirus E4-ORF3 Targets PIAS3 and Together with E1B-55K Remodels SUMO Interactions in the Nucleus and at Virus Genome Replication Domains.
- Signaling via the IL-20 receptor inhibits cutaneous production of IL-1β and IL-17A to promote infection with methicillin-resistant Staphylococcus aureus.
- PKCÎ¶ mediates disturbed flow-induced endothelial apoptosis via p53 SUMOylation.
- Lysine deacetylation in ischaemic preconditioning: the role of SIRT1.
- Keratin hypersumoylation alters filament dynamics and is a marker for human liver disease and keratin mutation.
- Neuroprotection resulting from insufficiency of RANBP2 is associated with the modulation of protein and lipid homeostasis of functionally diverse but linked pathways in response to oxidative stress.
- Spatial interplay between PIASy and FIP200 in the regulation of signal transduction and

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transcriptional activity.
- SUMO modification of the Ets-related transcription factor ERM inhibits its transcriptional activity.