10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

SUMO2/3 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP1224a

Product Information

Application	IHC-P, WB, IF, 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, Rat, Mouse
Predicted	Xenopus, Zebrafish, Bovine, Chicken, Hamster, Monkey, Pig, Rat, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	11637
Antigen Region	49-81

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	IHC-P~~1:100~500 WB~~1:1000 IF~~1:100 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.05% (V/V) Proclin 300. 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.

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.

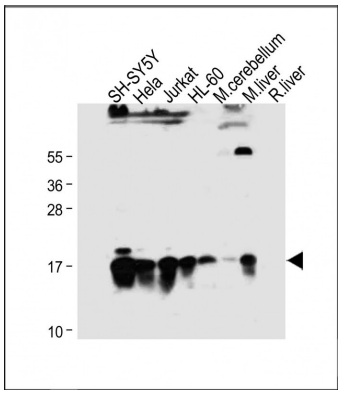
Background

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.

References

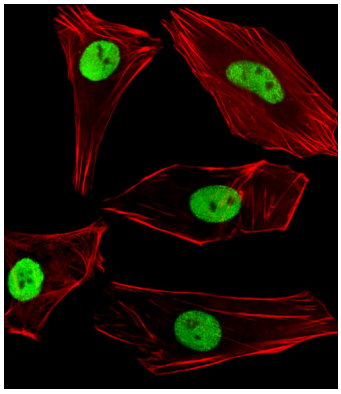
Strausberg, R.L., et al., Proc. Natl. Acad. Sci. U.S.A. 99(26):16899-16903 (2002).
Lapenta, V., et al., Genomics 40(2):362-366 (1997).

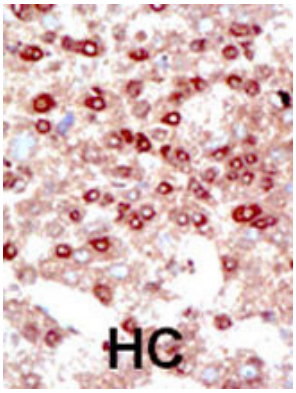
Images



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.

Fluorescent image of SH-SY5Y 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).





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.

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.
- Spatial interplay between PIASy and FIP200 in the regulation of signal transduction and transcriptional activity.
- Keratin hypersumoylation alters filament dynamics and is a marker for human liver disease and keratin mutation.
- Adenovirus E4-ORF3 Targets PIAS3 and Together with E1B-55K Remodels SUMO Interactions in the Nucleus and at Virus Genome Replication Domains.
- TRIB3 Promotes APL Progression through Stabilization of the Oncoprotein PML-RARα and Inhibition of p53-Mediated Senescence.
- HSP70-Hrd1 axis precludes the oncorepressor potential of N-terminal misfolded Blimp-1s in lymphoma cells.
- Signaling via the IL-20 receptor inhibits cutaneous production of IL-1β and IL-17A to promote infection with methicillin-resistant Staphylococcus aureus.
- SUMO modification of the Ets-related transcription factor ERM inhibits its transcriptional activity.
- Lysine deacetylation in ischaemic preconditioning: the role of SIRT1.
- 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.
- PKC □¶ mediates disturbed flow-induced endothelial apoptosis via p53 SUMOylation.
- Endothelial activation and fibrotic changes are impeded by laminar flow-induced CHK1-SENP2 activity through mechanisms distinct from endothelial-to-mesenchymal cell transition

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.