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SUMO2 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP1282a

Product Information

Application	IHC-P, WB, E
Primary Accession	P61956
Other Accession	Q7SZ22, Q5XIF4, Q9Z172, P55854, Q6DI05, Q5ZHQ1, Q17QV3, P61959, P61958, P61957, Q2PFW2, Q6DHL4, Q6LDZ8, Q5ZJM9, P61955, Q6NV25, Q6GPW2, Q7ZTK7
Reactivity	Human, Rat, Mouse
Predicted	Xenopus, Zebrafish, Bovine, Chicken, Hamster, Monkey, Mouse, Pig, Rat, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	10871
Antigen Region	63-93

Additional Information

Gene ID	6613
Other Names	Small ubiquitin-related modifier 2, SUMO-2, HSMT3, SMT3 homolog 2 {ECO:0000312|HGNC:HGNC:11125}, SUMO-3, Sentrin-2, Ubiquitin-like protein SMT3B, Smt3B, SUMO2 (HGNC:11125)
Target/Specificity	This SUMO2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 63-93 amino acids from the C-terminal region of human SUMO2.
Dilution	IHC-P~~1:100~500 WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation 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	SUMO2 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	SUMO2 (HGNC:11125)

Function	Ubiquitin-like protein that can be covalently attached to proteins as a monomer or as 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 an E3 ligase such as PIAS1-4, RANBP2, CBX4 or ZNF451 (PubMed:26524494). 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. Polymeric SUMO2 chains are also susceptible to polyubiquitination which functions as a signal for proteasomal degradation of modified proteins (PubMed:18408734, PubMed:18538659, PubMed:21965678, PubMed:9556629). Plays a role in the regulation of sumoylation status of SETX (PubMed:24105744).
Cellular Location	Nucleus. Nucleus, PML body.
Tissue Location	Broadly expressed..

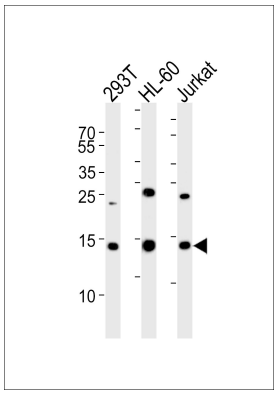
Background

SUMO2 is a member 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

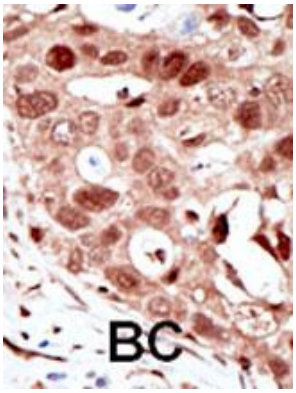
Strausberg, R.L., et al., Proc. Natl. Acad. Sci. U.S.A. 99(26):16899-16903 (2002). Lapenta, V., et al., Genomics 40(2):362-366 (1997).

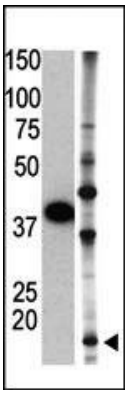
Images



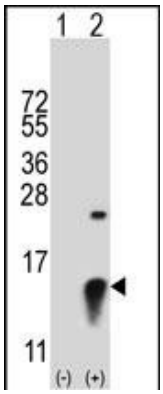
Western blot analysis of lysates from 293T, HL-60, Jurkat cell line (from left to right), using SUMO2 Antibody(Cat. # AP1282A). AP1282A was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:5000 dilution was used as the secondary antibody. Lysates at 35ug per lane.

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





The SUMO2 C-term Antibody (Cat.#AP1282a) is used in Western blot to detect SUMO2 in GST-SUMO2 fusion protein (lane 1) and HL60 cell lysate (lane 2).



Western blot analysis of SUMO2 (arrow) using rabbit polyclonal SUMO2 Antibody (Cat.#AP1282a). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected (Lane 2) with the SUMO2 gene.

Citations

- Novel eosinophilic neuronal cytoplasmic inclusions in the external cuneate nucleus of humans.
- TRIB3 Promotes APL Progression through Stabilization of the Oncoprotein PML-RARα and Inhibition of p53-Mediated Senescence.
- SUMOylation attenuates the aggregation propensity and cellular toxicity of the polyglutamine expanded ataxin-7.
- Incipient intranuclear inclusion body disease in a 78-year-old woman.
- Ubiquitin-related proteins in neuronal and glial intranuclear inclusions in intranuclear inclusion body disease.
- Sumoylation regulates lamin A function and is lost in lamin A mutants associated with familial cardiomyopathies.

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