abcam

ab203570

Anti-Sumo 3 antibody [1H9L17]

Recombinant

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	Preservative: 0.09% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Synthetic Peptide within Human SUMO3 aa 50-150. The exact immunogen used to generate this antibody is proprietary information. Database link P55854
Clone number	1H9L17
Purification technique	Affinity purification Protein A
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	-
Notes	Use at 0.5-1 µg/test

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Mouse
Dilution info	2-3 µg/mL
Notes	-

Species	Human
Dilution info	2-3 µg/mL
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	4-6 µg/mL
Notes	-

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

IHC-P

Tested

Species	Human
Dilution info	4-6 µg/mL

Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information SUMO3

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).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Sumo 3 also referred to as Small Ubiquitin-like Modifier 3 is a protein with a mass of approximately 11 kDa. It belongs to the SUMO family which modifies other proteins by attaching to them through a process called SUMOylation. Sumo 3 gets expressed widely in many tissues including the brain heart and skeletal muscles. It plays an important role in cellular processes such as nuclear-cytosolic transport transcriptional regulation and DNA repair.
Biological function summary	Sumo 3 functions in post-translational modification of proteins and often forms part of protein complexes. This modification can alter the protein's localization stability and activity. Sumo 3 activity influences cell cycle progression mitosis and stress response. SUMOylation including Sumo 3 adjusts protein interactions and functions impacting cellular homeostasis and modulation of transcription factors.
Pathways	Sumo 3 participates in the DNA repair and cellular stress response pathways. Through these pathways Sumo 3 closely interacts with proteins such as P53 an important protein in cell cycle regulation and apoptosis. Sumo 3 aids in facilitating DNA damage repair and protecting cells from apoptosis under stress helping maintain genomic integrity.
Associated diseases and disorders	Sumo 3 involvement has a relation to cancer and neurodegenerative disease. Alterations in SUMOylation patterns involving Sumo 3 can lead to cancer development due to ineffective DNA repair and apoptosis. Furthermore in neurodegenerative disease Sumo 3 modulates protein aggregation processes increasing or reducing accumulation of neurotoxic proteins. Sumo 3 often interacts with proteins like huntingtin in Huntington's disease influencing disease progression through modulation of protein aggregation.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

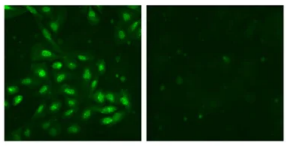
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

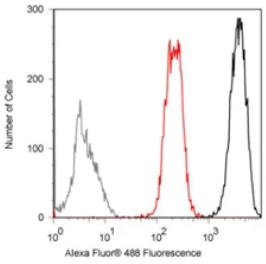
5 product images



Immunocytochemistry/ Immunofluorescence - Anti-Sumo 3 antibody [1H9L17] (ab203570)

Sumo 3 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Sumo 3 antibody

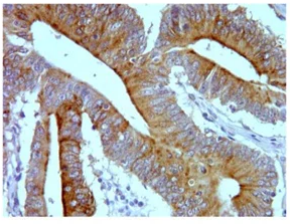
Immunofluorescent analysis of U2OS cells labeling Sumo 3 using ab203570 at 5 µg/mL (left image). Right image: sample with immunogenic phosphopeptide. Alexa Fluor® 488 Goat anti-Rabbit at 1/1000 dilution was used as secondary antibody.



Flow Cytometry - Anti-Sumo 3 antibody [1H9L17] (ab203570)

Sumo 3 Flow Cytometry staining using rabbit Anti-Sumo 3 antibody

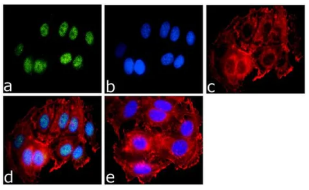
Flow cytometric analysis of fixed and permealized Jurkat cells labeling Sumo 3 using ab203570 at 0.5 µg/test (Black) followed by secondary detection with Alexa Fluor® 488 Goat anti-Rabbit. Cells incubated without primary antibody (grey) for control. Preincubation with immunizing peptide decreased the staining (red).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Sumo 3 antibody [1H9L17] (ab203570)

Sumo 3 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Sumo 3 antibody

Immunohistochemical analysis of formalin fixed, paraffin embedded Human colon carcinoma tissue labeling Sumo 3 using ab203570 at 5 µg/mL, followed by DAB detection.

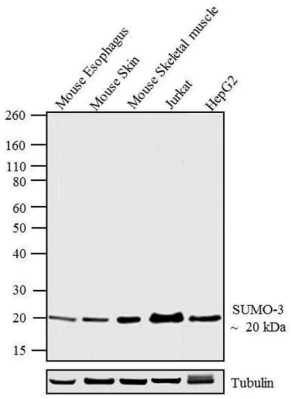


Immunocytochemistry/ Immunofluorescence - Anti-Sumo 3 antibody [1H9L17] (ab203570)

Sumo 3 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Sumo 3 antibody

Immunofluorescence analysis of 70% confluent log phase MCF7 cell labelled for SMT3/ SUMO3 using ab207570 at 1µg/mL. The cells were fixed with 4% paraformaldehyde for 15 minutes, permeabilized with 0.25% Triton X-100 for 10 minutes, and blocked with 5% BSA for 1 hour at room temperature. The cells were labeled with ab203570 in 1% BSA and incubated for 3 hours at room temperature and then labeled with secondary antibody for 45 minutes at room temperature (Panel A: green). Nuclei (Panel B: blue) were stained with SlowFade® Gold Antifade Mountant with DAPI. F-actin (Panel C: red) was stained with Alexa Fluor® 555 Rhodamine Phalloidin(1/300). Panel D is a merged image showing Nuclear localization. Panel E is a no primary antibody control. The images were captured at 60X magnification.

Western blot - Anti-Sumo 3 antibody [1H9L17] (ab203570)



Sumo 3 Western blot staining using rabbit Anti-Sumo 3 antibody

Western blot analysis of SUMO-3 expression in Mouse Esophagus, Mouse Skin, Mouse Skeletal muscle, and human cell lines Jurkat and HepG2. Used Novex® NuPAGE®4-12 % Bis-Tris gel, XCell SureLock™ Electrophoresis System, Novex® Sharp Pre-Stained Protein Standard, and iBlot® Dry Blotting System. Proteins were transferred to a nitrocellulose membrane and blocked with 5 % skim milk for 1 hour at room temperature.
SUMO-3 was detected at ~ 20 kDa using ab203570 in 5 % skim milk at 4°C overnight on a rocking platform. Chemiluminescent detection was performed using Pierce™ ECL Western blotting Substrate.

All lanes:
Western blot - Anti-Sumo 3 antibody [1H9L17] (ab203570) at 0.1 µg/mL

Lane 1:
Mouse Esophagus at 20 µg

Lane 2:
Mouse skin at 20 µg

Lane 3:
Mouse Skeletal muscle at 20 µg

Lane 4:
Jurkat at 20 µg

Lane 5:
Hep G2 at 20 µg

Secondary

All lanes:
Goat anti-Rabbit IgG - HRP Secondary Antibody at 0.02 µg/mL

Predicted band size: 11 kDa

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