abcam

# ab282157

# Anti-Sumo 2 + Sumo 3 antibody [AT10F1]

Recombinant

## Key facts

| | |
|---|---|
| **Isotype** | IgG2b |
| **Host species** | Mouse |
| **Storage buffer** | pH: 7.4 Preservative: 0.02% Sodium azide Constituents: 10% Glycerol (glycerin, glycerine), 0.75% Sodium chloride, 0.13% Disodium hydrogenorthophosphate, 0.02% Potassium chloride, 0.02% Potassium phosphate monobasic |
| **Form** | Liquid |
| **Clonality** | Monoclonal |
| **Immunogen** | Recombinant Full Length Protein corresponding to Human SUMO2. Database link P61956 |
| **Clone number** | AT10F1 |
| **Purification technique** | Affinity purification Protein A |
| **Light chain type** | kappa |

## Reactivity data

## ICC/IF

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/100 |
| **Notes** | - |

### Not recommended

| | |
|---|---|
| **Species** | Recombinant fragment - Human |
| **Dilution info** | - |
| **Notes** | - |

## WB

### Tested

| | |
|---|---|
| **Species** | Recombinant fragment - Human |
| **Dilution info** | 1/1000 |
| **Notes** | - |

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/1000 |
| **Notes** | - |

## Flow Cyt

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 2-5 µg for $10^6$ Cells |
| **Notes** | - |

### Not recommended

| | |
|---|---|
| **Species** | Recombinant fragment - Human |
| **Dilution info** | - |
| **Notes** | - |

## Target data

See full target information SUMO2

| | |
|---|---|
| **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). |

## 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 2 and Sumo 3 are small ubiquitin-like modifier proteins involved in post-translational modification often referred to as SUMOylation. Alternately known as SUMO-2 and SUMO-3 these proteins weigh approximately 11 kDa each and are widely expressed across various tissues including the heart and brain. During stress conditions cells significantly increase the conjugation of these proteins to other cellular proteins thereby altering their functions subcellular localization or interactions. |
| **Biological function summary** | Sumo 2 and Sumo 3 play essential roles in numerous cellular processes by modifying several target proteins in the nucleus and cytoplasm. They are part of a complex regulatory system that modulates processes like nuclear transport chromosome segregation and DNA repair. Sumo 2/3 often work in tandem with other members of the SUMO family including SUMO-1 to ensure proper cellular homeostasis. |

| | |
|---|---|
| **Pathways** | Sumo 2 and Sumo 3 are intimately involved in fundamental cellular signaling pathways such as the p53 pathway and NF-κB pathway. These proteins modulate the activity of key proteins within these pathways including the tumor suppressor p53 and the transcription factor NF-κB which regulate cell survival proliferation and apoptosis. Sumo 2/3-related modifications can alter the stability and function of these proteins thereby influencing cellular response to stimuli. |
| **Associated diseases and disorders** | Alterations in Sumo 2 and Sumo 3 functionality have been associated with neurodegenerative diseases and various cancers. In neurodegenerative disorders like Huntington's disease abnormal SUMOylation of specific proteins affects neuronal survival and function. Similarly in cancer dysregulation of SUMOylation pathways can affect the expression and activity of the oncogenic protein c-Myc contributing to tumor progression. These associations underline the significant role of Sumo 2/3 in pathophysiology. |

## 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**

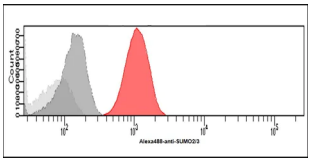
We do not recommend this combination. It is not covered by our product promise.

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.

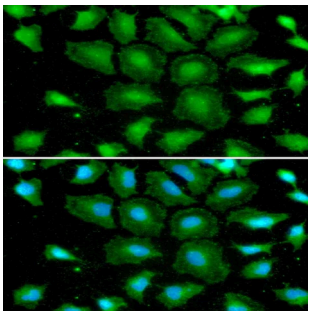
## 4 product images



### Flow Cytometry - Anti-Sumo 2 + Sumo 3 antibody [AT10F1] (ab282157)

Sumo 2 + Sumo 3 Flow Cytometry staining using mouse Anti-Sumo 2 + Sumo 3 antibody

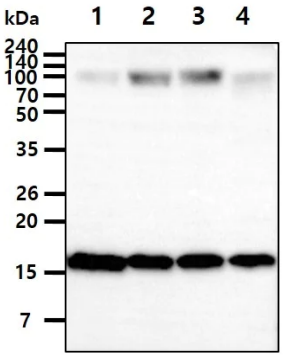
Flow cytometry analysis of Jurkat (Human T cell leukemia cell line from peripheral blood) cells labelling SUMO2/3 with ab282157 at 2-5ug for 1x10$^6$cells (red). A Goat anti mouse IgG (Alexa Fluor® 488) was used as the secondary antibody. Mouse monoclonal IgG was used as the isotype control (dark gray), cells without incubation with primary and secondary antibody was used as the negative control (light gray).



## Immunocytochemistry/ Immunofluorescence - Anti-Sumo 2 + Sumo 3 antibody [AT10F1] (ab282157)

Sumo 2 + Sumo 3 Immunocytochemistry/ Immunofluorescence staining using mouse Anti-Sumo 2 + Sumo 3 antibody

Immunocytochemical analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labelling SUMO2/3 with ab282157 at 1/100 dilution followed by Alexa Fluor® 488 secondary antibody (green). DAPI was stained the cell nucleus (blue).




## Western blot - Anti-Sumo 2 + Sumo 3 antibody [AT10F1] (ab282157)

Sumo 2 + Sumo 3 Western blot staining using mouse Anti-Sumo 2 + Sumo 3 antibody

SDS-PAGE gel was transferred to PVDF membrane.
ECL detection system.

All lanes:
Western blot - Anti-Sumo 2 + Sumo 3 antibody [AT10F1] (ab282157) at 1/1000 dilution

Lane 1:
HeLa (Human cervix adenocarcinoma epithelial cell) cell lysate at 40 µg

Lane 2:
Jurkat (Human T cell leukemia cell line from peripheral blood) whole cell lysate at 40 µg

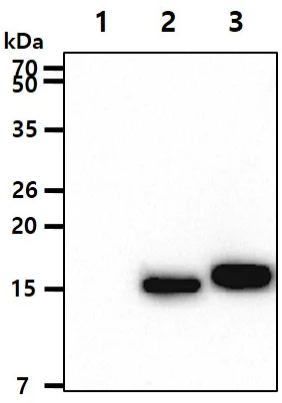
Lane 3:
K-562 (Human chronic myelogenous leukemia lymphoblast cell line ) whole cell lysate at 40 µg

Lane 4:
HL-60 (Human promyelocytic leukemia cell line) whole cell lysate at 40 µg

Secondary

All lanes:
Goat anti-Mouse secondary antibody HRP-conjugate

Predicted band size: 12 kDa




# Western blot - Anti-Sumo 2 + Sumo 3 antibody [AT10F1] (ab282157)

SDS-PAGE gel was transferred to PVDF membrane.
ECL detection system.

All lanes:
Western blot - Anti-Sumo 2 + Sumo 3 antibody [AT10F1] (ab282157) at 1/1000 dilution

Lane 1:
Recombinant human SUMO1 protein at 0.001 µg

Lane 2:
Recombinant human SUMO2 protein at 0.001 µg

Lane 3:
Recombinant human SUMO3 protein at 0.001 µg

Secondary

All lanes:
Goat anti-Mouse secondary antibody HRP-conjugate

Predicted band size: 12 kDa

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