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Anti-SENP1 Antibody Picoband™ (monoclonal, 5F4)

Catalog # ABO15124

Product Information

Application	WB, FC
Primary Accession	Q9P0U3
Host	Mouse
Isotype	Mouse IgG1
Reactivity	Human
Clonality	Monoclonal
Format	Lyophilized
Description	Anti-SENP1 Antibody Picoband™ (monoclonal, 5F4) . Tested in Flow Cytometry, WB applications. This antibody reacts with Human.
Reconstitution	Adding 0.2 ml of distilled water will yield a concentration of 500 □g/ml.

Additional Information

Gene ID	29843
Other Names	Sentrin-specific protease 1, 3.4.22.-, Sentrin/SUMO-specific protease SENP1, SENP1
Calculated MW	73481
Application Details	Western blot, 0.25-0.5 □g/ml, Human Flow Cytometry, 1-3 □g/1x10^6 cells, Human
Source	Eukaryota
Contents	Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na2HPO4.
Clone Names	Clone: 5F4
Immunogen	E.coli-derived human SENP1 recombinant protein (Position: N19-P619).
Purification	Immunogen affinity purified.
Storage	At -20°C for one year from date of receipt. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for six months. Avoid repeated freezing and thawing.

Protein Information

Name	SENP1
Function	Protease that catalyzes two essential functions in the SUMO pathway

(PubMed:10652325, PubMed:15199155, PubMed:15487983, PubMed:16253240, PubMed:16553580, PubMed:21829689, PubMed:21965678, PubMed:23160374, PubMed:24943844, PubMed:25406032, PubMed:29506078, PubMed:34048572, PubMed:37257451). The first is the hydrolysis of an alpha-linked peptide bond at the C-terminal end of the small ubiquitin- like modifier (SUMO) propeptides, SUMO1, SUMO2 and SUMO3 leading to the mature form of the proteins (PubMed:15487983). The second is the deconjugation of SUMO1, SUMO2 and SUMO3 from targeted proteins, by cleaving an epsilon-linked peptide bond between the C-terminal glycine of the mature SUMO and the lysine epsilon-amino group of the target protein (PubMed:15199155, PubMed:16253240, PubMed:21829689, PubMed:21965678, PubMed:23160374, PubMed:24943844, PubMed:25406032, PubMed:29506078, PubMed:34048572, PubMed:37257451). Deconjugates SUMO1 from HIPK2 (PubMed:16253240). Deconjugates SUMO1 from HDAC1 and BHLHE40/DEC1, which decreases its transcriptional repression activity (PubMed:15199155, PubMed:21829689). Deconjugates SUMO1 from CLOCK, which decreases its transcriptional activation activity (PubMed:23160374). Deconjugates SUMO2 from MTA1 (PubMed:21965678). Inhibits N(6)-methyladenosine (m6A) RNA methylation by mediating SUMO1 deconjugation from METTL3 and ALKBH5: METTL3 inhibits the m6A RNA methyltransferase activity, while ALKBH5 desumoylation promotes m6A demethylation (PubMed:29506078, PubMed:34048572, PubMed:37257451). Desumoylates CCAR2 which decreases its interaction with SIRT1 (PubMed:25406032). Deconjugates SUMO1 from GPS2 (PubMed:24943844).

Cellular Location Nucleus. Cytoplasm Note=Shuttles between cytoplasm and nucleus

Tissue Location Highly expressed in testis. Expressed at lower levels in thymus, pancreas, spleen, liver, ovary and small intestine

Background

Sentrin-specific protease 1 is a protein that in human is encoded by the SENP1 gene. This gene is mapped to 12q13.11. This gene encodes a cysteine protease that specifically targets members of the small ubiquitin-like modifier (SUMO) protein family. This protease regulates SUMO pathways by deconjugating sumoylated proteins. This protease also functions to process the precursor SUMO proteins into their mature form. Alternate splicing results in multiple transcript variants.

Images

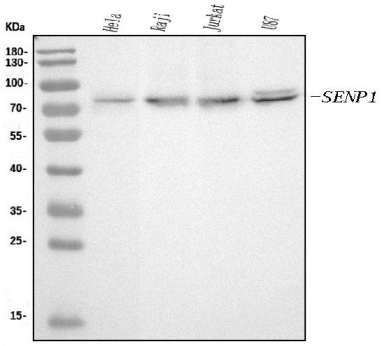


Figure 1. Western blot analysis of SENP1 using anti-SENP1 antibody (M02156-1).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours.
The sample well of each lane was loaded with 30 ug of sample under reducing conditions.
Lane 1: human Hela whole cell lysates,
Lane 2: human Raji whole cell lysates,
Lane 3: human Jurkat whole cell lysates,
Lane 4: human U87 whole cell lysates.
After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes.
Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with mouse anti-SENP1 antigen affinity purified monoclonal antibody (Catalog # M02156-1) at 0.5 µg/mL overnight at 4°C, then

washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-mouse IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1001) with Tanon 5200 system. A specific band was detected for SENP1 at approximately 73 kDa. The expected band size for SENP1 is at 73 kDa.

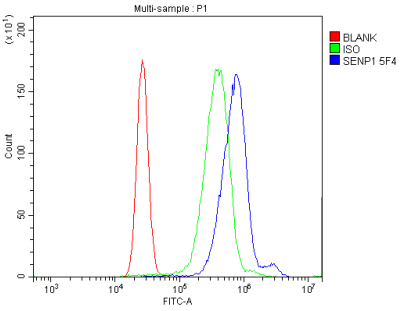


Figure 2. Flow Cytometry analysis of K562 cells using anti-SENP1 antibody (M02156-1).
Overlay histogram showing K562 cells stained with M02156-1 (Blue line). The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-SENP1 Antibody (M02156-1, 1 µg/1x10^6 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10 µg/1x10^6 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG (1 µg/1x10^6) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

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