abcam

ab185552

Anti-SAE1 antibody [EPR15398]

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR15398
Purification technique	Affinity purification Protein A
Concentration	1.346 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/50 - 1/70
Notes	-

Predicted

Species	Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/10000 - 1/50000
Notes	-

Predicted

Species	Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/500
Notes	-

Predicted

Species	Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/230
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Predicted

Species	Rat
Dilution info	-
Notes	-

Target data

See full target information SAE1

Function The heterodimer acts as an E1 ligase for SUMO1, SUMO2, SUMO3, and probably SUMO4. It mediates ATP-dependent activation of SUMO proteins followed by formation of a thioester bond between a SUMO protein and a conserved active site cysteine residue on UBA2/SAE2.

Storage

Shipped at conditions	Conditional Ambient
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

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

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

Activity summary	The protein SAE1 also known as SUMO-activating enzyme subunit 1 functions mechanically as a part of the SUMOylation process. It has a mass of approximately 39 kDa and is expressed in multiple cell types but is mainly found in the nucleus. SAE1 forms a heterodimeric structure with the protein SAE2 and together they are responsible for the initial step of SUMO activation which is important for SUMOylation a post-translational modification process.
Biological function summary	SAE1 is integral to numerous cellular processes that require precise regulation such as transcription DNA repair and signal transduction. It functions as part of the SUMO E1 enzyme complex which is essential for conjugating SUMO proteins to target substrates. This modification influences protein stability localization and interaction adding a layer of control in these cellular activities. The modulation of protein function by SAE1 impacts cell cycle control and stress responses indicating its breadth of influence across cellular mechanisms.
Pathways	The actions of SAE1 significantly impact the PI3K-Akt and DNA damage repair pathways. Its involvement in these pathways highlights its role in regulating cell survival and maintaining genomic integrity. SAE1's interaction within the SUMOylation machinery connects it to other proteins such as Ubc9 the E2 conjugating enzyme which highlights its importance in facilitating modifications necessary for a wide array of cellular functions and signaling cascades.
Associated diseases and disorders	Defects or dysregulation of SAE1 have been linked to cancer and neurodegenerative conditions. Altered SUMOylation levels controlled by SAE1 can influence tumorigenesis through abnormal cell proliferation or impaired DNA damage responses connecting it with proteins like p53 and PARP1 which are critical in those pathways. Additionally SAE1's involvement in neurological disorders is associated with disrupted protein homeostasis linking it to pathologies where proper cellular regulatory mechanisms are compromised.

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

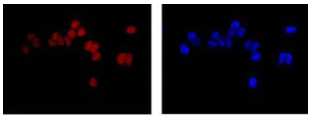
We do not recommend this combination. It is not covered by our product promise.

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.

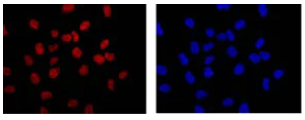
5 product images



Immunocytochemistry/ Immunofluorescence - Anti-SAE1 antibody [EPR15398] (ab185552)

SAE1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-SAE1 antibody

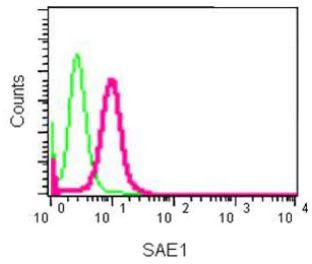
Immunofluorescence analysis of MCF-7 cells labeling SAE1 with ab185552 at 1/500 dilution. Secondary ab: Goat anti rabbit IgG (Alexa Fluor® 555) at 1/200 dilution. Fixative: 4% paraformaldehyde. Counter stain: Dapi.



Immunocytochemistry/ Immunofluorescence - Anti-SAE1 antibody [EPR15398] (ab185552)

SAE1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-SAE1 antibody

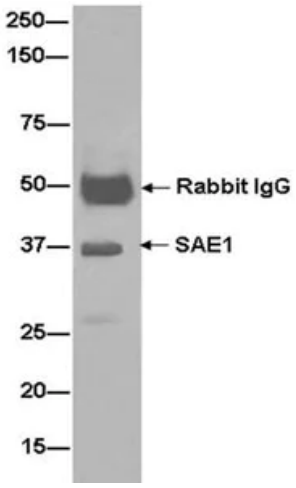
Immunofluorescence analysis of HeLa cells labeling SAE1 with ab185552 at 1/500 dilution. Secondary ab: Goat anti rabbit IgG (Alexa Fluor® 555) at 1/200 dilution. Fixative: 4% paraformaldehyde. Counter stain: Dapi.



Flow Cytometry (Intracellular) - Anti-SAE1 antibody [EPR15398] (ab185552)

SAE1 Flow Cytometry (Intracellular) staining using rabbit Anti-SAE1 antibody

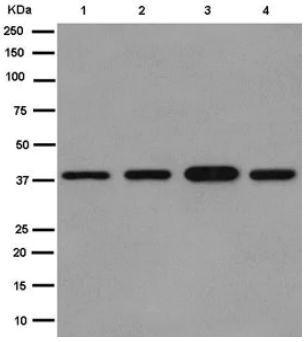
Intracellular Flow Cytometry analysis of HeLa cells using ab185552 at 1/230 dilution. Secondary ab: Goat anti rabbit IgG (FITC) at 1/150 dilution. Fixative: 2% paraformaldehyde. Isotype control: Rabbit monoclonal IgG.



Immunoprecipitation - Anti-SAE1 antibody [EPR15398] (ab185552)

Immunoprecipitation from 293 cells using ab185552 at 1/50 dilution. Secondary ab: Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution. Blocking buffer: 5% NFDM/TBST.
All lanes:
Immunoprecipitation - Anti-SAE1 antibody [EPR15398] (ab185552)

Predicted band size: 38 kDa



Western blot - Anti-SAE1 antibody [EPR15398] (ab185552)

Blocking buffer: 5% NFDM/TBST
All lanes:
Western blot - Anti-SAE1 antibody [EPR15398] (ab185552) at 1/10000 dilution

Lane 1:
Hela cell lysate at 20 µg

Lane 2:
Jurkat cell lysate at 20 µg

Lane 3:
293 cell lysate at 20 µg

Lane 4:
MCF-7 cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Predicted band size: 38 kDa

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