

Product datasheet

Anti-Sumo 1 antibody [EP298] ab133352

KO VALIDATED Recombinant RabMAb

★★★★★ [2 Abreviews](#) [13 References](#) [11 Images](#)

Overview

Product name	Anti-Sumo 1 antibody [EP298]
Description	Rabbit monoclonal [EP298] to Sumo 1
Host species	Rabbit
Tested applications	Suitable for: IHC-P, WB Unsuitable for: Flow Cyt
Species reactivity	Reacts with: Mouse, Rat, Human
Immunogen	Synthetic peptide within Human Sumo 1 aa 1-100. The exact sequence is proprietary.
Positive control	WB- HeLa whole cell lysate (ab150035), MCF-7 whole cell lysate, A549 whole cell lysate, NIH/3T3 whole cell lysate, C6 whole cell lysate, HL-60 cell lysate and A431 cell lysate. IHC- Human papillary cell thyroid gland carcinoma tissue, Human Breast carcinoma tissue, Human Glioma tissue, Human Urinary bladder transitional carcinoma tissue and Human tonsil tissue.
General notes	<p>This product is a recombinant monoclonal antibody, which offers several advantages including:</p> <ul style="list-style-type: none"> - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production <p>For more information see here.</p> <p>Our RabMAb[®] technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb[®] patents.</p>

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Stable for 12 months at -20°C.
Storage buffer	pH: 7.2 Preservative: 0.01% Sodium azide Constituents: 40% Glycerol (glycerin, glycerine), 0.21% BSA, 59% PBS
Purity	Protein A purified
Clonality	Monoclonal

Clone number	EP298
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab133352 in the following tested applications. The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
IHC-P	★★★★★ (1)	1/100 - 1/250. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.
WB		1/1000 - 1/10000. Predicted molecular weight: 11.5 kDa.

Application notes Is unsuitable for Flow Cyt.

Target

Function Ubiquitin-like protein that can be covalently attached to proteins as a monomer or 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 E3 ligases such as PIAS1-4, RANBP2 or CBX4. 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. Involved for instance in targeting RANGAP1 to the nuclear pore complex protein RANBP2. Polymeric SUMO1 chains are also susceptible to polyubiquitination which functions as a signal for proteasomal degradation of modified proteins. May also regulate a network of genes involved in palate development.

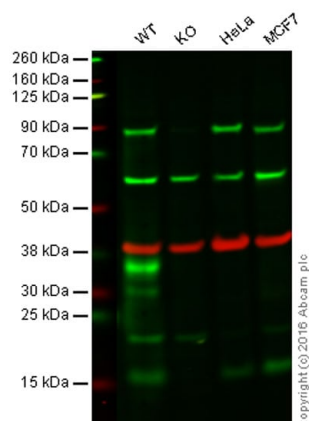
Involvement in disease Defects in SUMO1 are the cause of non-syndromic orofacial cleft type 10 (OFC10) [MIM:613705]; also called non-syndromic cleft lip with or without cleft palate 10. OFC10 is a birth defect consisting of cleft lips with or without cleft palate. Cleft lips are associated with cleft palate in two-third of cases. A cleft lip can occur on one or both sides and range in severity from a simple notch in the upper lip to a complete opening in the lip extending into the floor of the nostril and involving the upper gum. Note=A chromosomal aberration involving SUMO1 is the cause of OFC10. Translocation t(2;8)(q33.1;q24.3). The breakpoint occurred in the SUMO1 gene and resulted in haploinsufficiency confirmed by protein assays.

Sequence similarities Belongs to the ubiquitin family. SUMO subfamily. Contains 1 ubiquitin-like domain.

Post-translational modifications Cleavage of precursor form by SENP1 or SENP2 is necessary for function. Polymeric SUMO1 chains undergo polyubiquitination by RNF4.

Cellular localization Nucleus membrane. Nucleus speckle. Cytoplasm. Recruited by BCL11A into the nuclear body.

Images



Western blot - Anti-Sumo 1 antibody [EP298]
(ab133352)

Lane 1: Wild-type HAP1 cell lysate (20 µg)

Lane 2: Sumo 1 knockout HAP1 cell lysate (20 µg)

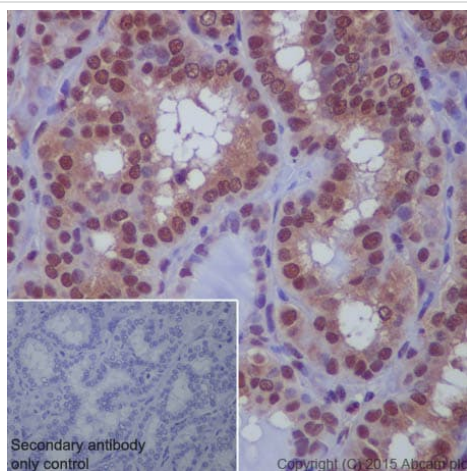
Lane 3: HeLa cell lysate (20 µg)

Lane 4: MCF-7 cell lysate (20 µg)

Lanes 1 - 4: Merged signal (red and green). Green - ab133352 observed at 16 kDa. Red - loading control, **ab8245**, observed at 37 kDa.

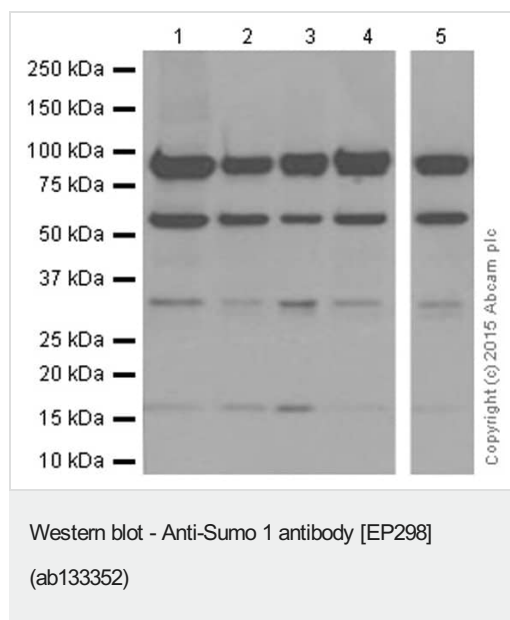
ab133352 was shown to recognize Sumo 1 when Sumo 1 knockout samples were used, along with additional cross-reactive bands.

Wild-type and Sumo 1 knockout samples were subjected to SDS-PAGE. ab133352 and **ab8245** (loading control to GAPDH) were diluted 1/1000 and 1/10000 respectively and incubated overnight at 4°C. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (**ab216773**) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (**ab216776**) secondary antibodies at 1/10000 dilution for 1 hour at room temperature before imaging.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Sumo 1 antibody [EP298] (ab133352)

Immunohistochemical staining of paraffin-embedded human thyroid carcinoma sections labelling Sumo 1 with purified ab133352 at dilution of 1:100. The secondary antibody used was **ab97051**; a goat anti-rabbit IgG H&L (HRP) at dilution of 1/500. The sample was counter-stained with hematoxylin. Antigen retrieval was performed using EDTA Buffer; pH 9.0. PBS was used instead of the primary antibody as the negative control and is shown in the inset.



All lanes : Anti-Sumo 1 antibody [EP298] (ab133352) at 1/10000 dilution

Lane 1 : HeLa (human cervix adenocarcinoma) whole cell lysate

Lane 2 : MCF-7 (human breast carcinoma) whole cell lysate

Lane 3 : A549 (human lung carcinoma) whole cell lysate

Lane 4 : NIH/3T3 (mouse embryo) whole cell lysate

Lane 5 : C6 (rat glioma) whole cell lysate

Lysates/proteins at 20 µg per lane.

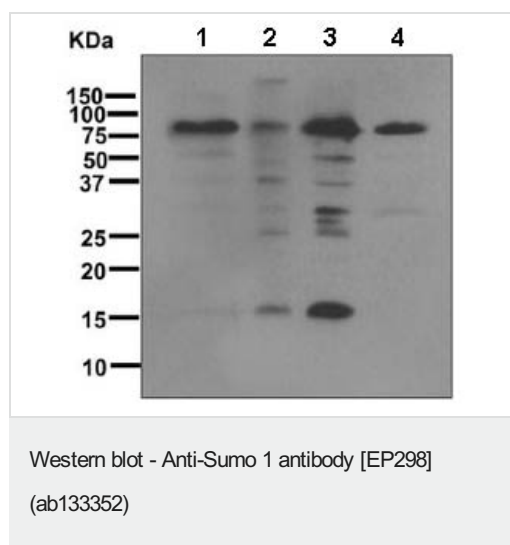
Secondary

All lanes : Goat Anti-Rabbit IgG H&L (HRP) ([ab97051](#)) at 1/10000 dilution

Predicted band size: 11.5 kDa

Observed band size: 18-90 kDa

Blocking and diluting buffer 5% NFDM/TBST



All lanes : Anti-Sumo 1 antibody [EP298] (ab133352) at 1/1000 dilution (unpurified)

Lane 1 : HeLa cell lysate

Lane 2 : HL60 cell lysate

Lane 3 : A431 cell lysate

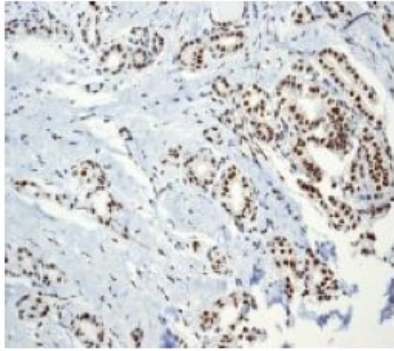
Lane 4 : NIH3T3 cell lysate

Lysates/proteins at 10 µg per lane.

Secondary

All lanes : HRP labelled goat anti-rabbit at 1/2000 dilution

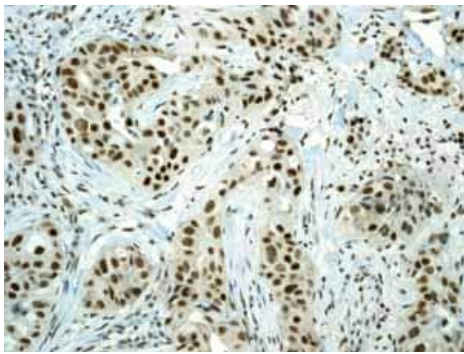
Predicted band size: 11.5 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Sumo 1 antibody [EP298] (ab133352)

Immunohistochemical analysis of paraffin-embedded Human papillary cell thyroid gland carcinoma tissue labelling Sumo 1 with un-purified ab133352 at 1/100 dilution.

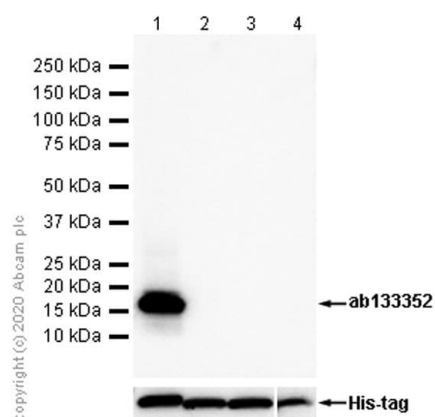
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Sumo 1 antibody [EP298] (ab133352)

Immunohistochemical analysis of paraffin embedded Human Breast carcinoma tissue labelling Sumo 1 with un-purified ab133352 at dilution of 1/100-1/250.

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Western blot - Anti-Sumo 1 antibody [EP298] (ab133352)

All lanes : Anti-Sumo 1 antibody [EP298] (ab133352) at 1/1000 dilution

Lane 1 : Recombinant Human Sumo 1 protein ([ab140417](#)) at 0.01 µg

Lane 2 : Recombinant Human Sumo 2 protein ([ab140420](#)) at 0.01 µg

Lane 3 : Recombinant Human Sumo 3 protein ([ab140414](#)) at 0.01 µg

Lane 4 : Recombinant Human Sumo 4 protein ([ab157025](#)) at 0.1 µg

Secondary

All lanes : Goat Anti-Rabbit IgG H&L (HRP) ([ab97051](#)) at 1/20000 dilution

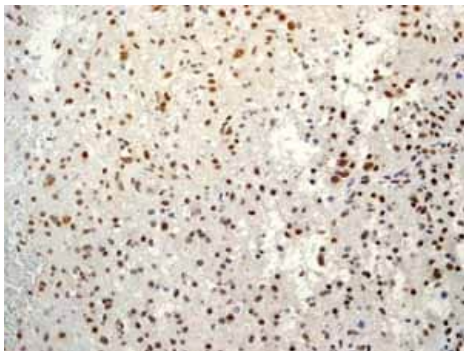
Developed using the ECL technique.

Predicted band size: 11.5 kDa

Observed band size: 16 kDa

Exposure time: 10 seconds

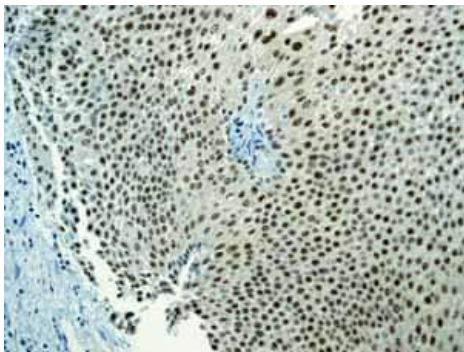
Blocking buffer: 5% NFDM/TBST



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Sumo 1 antibody [EP298] (ab133352)

Immunohistochemical analysis of paraffin embedded Human Glioma tissue labelling Sumo 1 with un-purified ab133352 at dilution of 1/100-1/250.

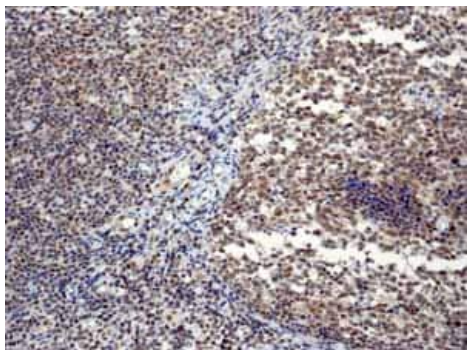
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Sumo 1 antibody [EP298] (ab133352)

Immunohistochemical analysis of paraffin embedded Human Urinary bladder transitional carcinoma tissue labelling Sumo 1 with un-purified ab133352 at dilution of 1/100-1/250.

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemical analysis of paraffin embedded normal Human tonsil tissue labelling Sumo 1 with un-purified ab133352 at dilution of 1/100-1/250.

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Sumo 1 antibody [EP298] (ab133352)

Why choose a recombinant antibody?



Research with confidence
Consistent and reproducible results



Long-term and scalable supply
Recombinant technology



Success from the first experiment
Confirmed specificity



Ethical standards compliant
Animal-free production

Anti-Sumo 1 antibody [EP298] (ab133352)

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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