abcam

Product datasheet

Anti-Sumo 1 antibody [4D12] - BSA and Azide free (Biotin) ab179907

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Overview

Product name	Anti-Sumo 1 antibody [4D12] - BSA and Azide free (Biotin)
Description	Biotin Rat monoclonal [4D12] to Sumo 1
Host species	Rat
Conjugation	Biotin
Tested applications	**Suitable for:** WB, ICC/IF
Species reactivity	**Reacts with:** Mouse, Human
Immunogen	Recombinant full length protein (proprietary-tag) corresponding to Human Sumo 1. Database link: **P63165**
Positive control	HeLa total cell extract; mouse primary culture neurons; C-33A Human cervix carcinoma cells.
General notes	The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

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 long term. Store In the Dark.
Storage buffer	pH: 6 Constituents: 50% Glycerol (glycerin, glycerine), 50% PBS
Purity	Proprietary Purification
Purification notes	ab179907 was produced in serum-free medium and purified under mild conditions by propriety chromatography processes and conjugated with biotin. ab179907 is filter-sterilised.
Clonality	Monoclonal
Clone number	4D12

Isotype	IgG2a
Light chain type	kappa

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab179907 in the following tested applications.

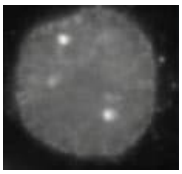
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB		Use at an assay dependent concentration. Predicted molecular weight: 11 kDa.
ICC/IF		Use at an assay dependent concentration.

Target

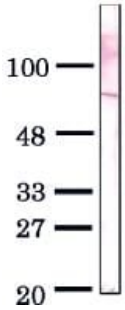
Function	Ubiquitin-like protein that can be covalently attached to proteins as a monomer or a lysine-linked polymer. Covalent attachment via an isopeptide bond to its substrates requires prior activation by the E1 complex SAE1-SAE2 and linkage to the E2 enzyme UBE2I, and can be promoted by E3 ligases 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 aberation 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



Immunocytochemistry/ Immunofluorescence - Anti-Sumo 1 antibody [4D12] - BSA and Azide free (Biotin) (ab179907)

Immunofluorescent analysis of C-33A Human cervix carcinoma cells labeling Sumo 1 with ab179907 at 10 ug/ml

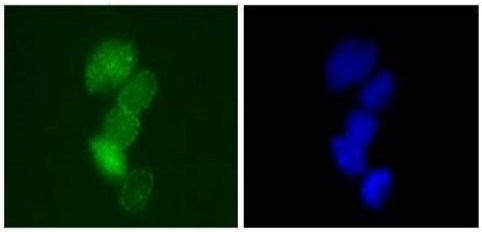


Western blot - Anti-Sumo 1 antibody [4D12] - BSA and Azide free (Biotin) (ab179907)

Anti-Sumo 1 antibody [4D12] - BSA and Azide free (Biotin) (ab179907) + HeLa total cell extract

Predicted band size: 11 kDa

An 80 kDa single and other multiple bands were observed in HeLa total cell extract at 1 ug/ml



Immunocytochemistry/ Immunofluorescence - Anti-Sumo 1 antibody [4D12] - BSA and Azide free (Biotin) (ab179907)

Immunofluorescent analysis of mouse primary culture neurons labeling Sumo 1 with ab179907 (left panel) at 10 ug/ml. DNA was stained with Hoechst (right panel).

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