abcam

ab139191

Anti-CCDC98 antibody [EPR6310(2)]

Recombinant | RabMAb

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	EPR6310(2)
Purification technique	Affinity purification Protein A
Concentration	0.089 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/10 - 1/100
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000 - 1/10000
Notes	-

IHC-P

Not recommended

Species	Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100 - 1/250
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/100 - 1/1000
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Target data

See full target information ABRAXAS1

Function	Involved in DNA damage response and double-strand break (DSB) repair. Component of the BRCA1-A complex, acting as a central scaffold protein that assembles the various components of the complex and mediates the recruitment

of BRCA1. The BRCA1-A complex specifically recognizes 'Lys-63'-linked ubiquitinated histones H2A and H2AX at DNA lesion sites, leading to target the BRCA1-BARD1 heterodimer to sites of DNA damage at DSBs. This complex also possesses deubiquitinase activity that specifically removes 'Lys-63'-linked ubiquitin on histones H2A and H2AX.

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C

Notes

Species reactivity
Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.

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	CCDC98 also known as NABP2 or MERIT40 functions as a protein that assists in the DNA damage response and repair pathways. Its molecular mass is approximately 42 kDa. CCDC98 primarily shows expression in the nucleus of cells. It is essential in repair processes by interacting with other proteins involved in the DNA double-strand break repair mechanism. The protein ensures stability within the BRCA1-A complex playing a role in maintaining genomic integrity.
Biological function summary	CCDC98 supports cellular processes by stabilizing the BRCA1-A complex which is important for the homologous recombination repair of damaged DNA. This protein

	forms an important part of the machinery that recognizes and processes DNA damage. It interacts with other core components of the DNA repair system like BRCA1 RAP80 and ABRAXAS ensuring efficient repair and prevention of genomic instability.
Pathways	CCDC98 is integral to the homologous recombination repair and cell cycle checkpoint pathways. Through its association with the BRCA1-A complex CCDC98 influences the recruitment and retention of repair proteins at DNA damage sites a critical event in the DNA damage response pathway. It connects with other proteins such as BRCA1 and RAP80 to regulate repair pathway activities and proper cell cycle progression reinforcing cellular responses to DNA damage.
Associated diseases and disorders	CCDC98 is linked to breast and ovarian cancers. Mutations or dysregulation affecting CCDC98's function can disrupt BRCA1-A complex stability leading to compromised DNA repair ability which is a factor in tumorigenesis. It connects to the BRCA1 protein in these disease contexts where impaired interactions can raise the risk of developing cancer showcasing the significance of this protein in health and disease contexts.

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

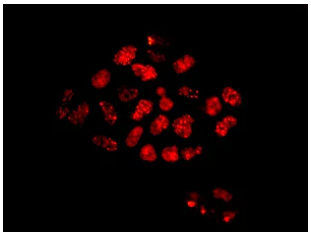
We do not recommend this combination. It is not covered by our product promise.

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.

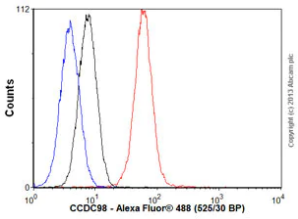
5 product images



Immunocytochemistry/ Immunofluorescence - Anti-CCDC98 antibody [EPR6310(2)] (ab139191)

CCDC98 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-CCDC98 antibody

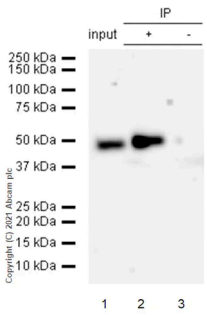
Immunofluorescent analysis of HeLa cells labelling CCDC98 with ab139191 at 1/100 dilution.



Flow Cytometry (Intracellular) - Anti-CCDC98 antibody [EPR6310(2)] (ab139191)

CCDC98 Flow Cytometry (Intracellular) staining using rabbit Anti-CCDC98 antibody

Overlay histogram showing HeLa cells stained with ab139191 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab139191 1/1000 dilution) for 30 min at 22°C. The secondary antibody used was Alexa Fluor® 488 goat anti-rabbit IgG (H&L) (ab150077) at 1/2000 dilution for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (monoclonal) (0.1µg/1x10^6 cells) used under the same conditions. Unlabelled sample (blue line) was also used as a control. Acquisition of >5000 events were collected using a 20mW Argon ion laser (488nm) and 525/30 bandpass filter.



Immunoprecipitation - Anti-CCDC98 antibody [EPR6310(2)] (ab139191)

CCDC98 was immunoprecipitated from 0.35 mg HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysate 10 µg with ab139191 at 1/60 dilution (2µg). VeriBlot for IP Detection Reagent (HRP) (ab131366) was used at 1/5000 dilution.
Lane 1: HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysate 10 µg

Lane 2: ab139191 IP in HeLa whole cell lysate

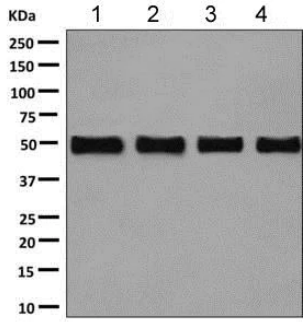
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab139191 in HeLa whole cell lysate

Blocking and dilution buffer and concentration: 5% NFDM/TBST.

All lanes:
Immunoprecipitation - Anti-CCDC98 antibody [EPR6310(2)] (ab139191)

Predicted band size: 47 kDa

Observed band size: 47 kDa



Western blot - Anti-CCDC98 antibody [EPR6310(2)] (ab139191)

CCDC98 Western blot staining using rabbit Anti-CCDC98 antibody

All lanes:
Western blot - Anti-CCDC98 antibody [EPR6310(2)] (ab139191) at 1/1000 dilution

Lane 1:
HeLa cell lysate at 10 µg

Lane 2:
MCF7 cell lysate at 10 µg

Lane 3:
293T (Human embryonic kidney epithelial cell) cell lysate at 10 µg

Lane 4:
Jurkat cell lysate at 10 µg

Secondary

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

Predicted band size: 47 kDa

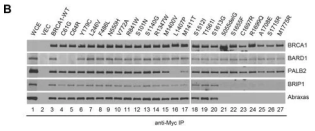


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Western blot - Anti-CCDC98 antibody [EPR6310(2)] (ab139191)

CCDC98 Western blot staining using rabbit Anti-CCDC98 antibody

CCDC98 western blot using anti-CCDC98 antibody [EPR6310(2)] ab139191. Publication image and figure legend from Anantha, R. W., Simhadri, S., et al., 2017, Elife, PubMed 28398198.

ab139191 was used in this publication in western blot. This may not be the same as the application(s) guaranteed by Abcam. For a full list of applications guaranteed by Abcam for ab139191 please see the product overview.

Sequence alterations generated in BRCA1 and their effects on protein-protein interactions and HR. (A) Domain structure of BRCA1 and the binding sites for its interacting partners. NES, nuclear export signal; NLS, nuclear localization signal. (B) Effects of the BRCA1 variants on the binding of BARD1, PALB2, BRIP1 and Abraxas. The 3xMyc-tagged BRCA1 proteins were transiently expressed in 293T cells and IPed with an anti-Myc antibody. WCE, whole cell extract. (C) Schematic of the HR reporter assay. The DR-GFP reporter contains two defective copies of the GFP gene, one disrupted by an I-SceI site and the other lacking a promoter. I-SceI cutting of the first copy generates a DSB, and repair by HR with the second copy as a template leads to restoration of a functional GFP gene. (D) HR activities of the variants relative to the wt BRCA1 protein. Data shown are the means from two to seven independent experiments for each variant or mutant. Error bars represent standard deviations (SDs). The grey bars indicate variants that are among the top 20 missense variants but are already present in BRCA1 cDNAs obtained from three independent sources. The calculated cutoff threshold is indicated by horizontal lines. **p<0.01. See Figure 1—source data 1 for details. (E) Levels of BRCA1 protein following knockdown and re-expression. Cells treated with a control siRNA (NSC1) were used as a control for the endogenous protein abundance.DOI:http://dx.doi.org/10.7554/eLife.21350.00310.7554/eLife.21350.004Figure 1—source data 1.HR activities of the BRCA1 variants and mutants analzyed in this study.See texts and materials and methods for details.DOI:http://dx.doi.org/10.7554/eLife.21350.004HR activities of the BRCA1 variants and mutants analzyed in this study.See texts and materials and methods for details.DOI:http://dx.doi.org/10.7554/eLife.21350.004Capacity of the BRCA1 variants to bind BARD1, PALB2, CtIP and BRIP1.The 3xMyc-tagged BRCA1 proteins were transiently expressed in 293T cells and IPed with an anti-Myc antibody. Note that the amount of CtIP co-IPed with BRCT mutants R1699Q and A1708E was the same as the background level in the vector lane.DOI:http://dx.doi.org/10.7554/eLife.21350.005Expression levels of BRCA1 BRCT missense and truncating mutants in U2OS/DR-GFP cells first depleted of the endogenous BRCA1 and then transfected with cDNA expressing the mutants.Cells untreated with any siRNA were used as a control for the endogenous protein abundance (spliced from the same gel).DOI:http://dx.doi.org/10.7554/eLife.21350.006

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