abcam

ab243905

Anti-Rad21 antibody [BLR052F]

Recombinant

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.8 - 8.6 Preservative: 0.09% Sodium azide Constituents: 98% Borate buffered saline, 0.1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	Synthetic Peptide within Human RAD21 aa 550 to C-terminus. The exact immunogen used to generate this antibody is proprietary information. Database link O60216
Clone number	BLR052F
Purification notes	Recombinant antibody was purified from cell culture supernatant.

Reactivity data

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000

Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	1 µL for 10^6 Cells
Notes	-

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information RAD21

Function	Double-strand-break repair protein rad21 homolog. As a member of the cohesin complex, involved in sister chromatid cohesion from the time of DNA replication in S phase to their segregation in mitosis, a function that is essential for proper chromosome segregation, post-replicative DNA repair, and the prevention of inappropriate recombination between repetitive regions (PubMed:11509732). The cohesin complex may also play a role in spindle pole assembly during mitosis (PubMed:11590136). In interphase, cohesins may function in the control of gene expression by binding to numerous sites within the genome (By similarity). May control RUNX1 gene expression (Probable). Binds to and represses APOB gene promoter (PubMed:25575569). May play a role in embryonic gut development, possibly through the regulation of enteric neuron development (By similarity). 64-kDa C-terminal product. May promote apoptosis.

Storage

Shipped at conditions	Blue Ice
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

REACH authorisation
Abcam has not and does not intend to apply for the REACH Authorisation of customers' uses of products that contain European Authorisation list (Annex XIV) substances.
It is the responsibility of our customers to check the necessity of application of REACH Authorisation, and any other relevant authorisations, for their intended uses.

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Supplementary info

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

Activity summary	Rad21 also known as double-strand-break repair protein rad21 homolog serves as a component of the cohesin complex. This protein is approximately 123 kDa in size. Rad21 is expressed in a wide range of tissues and cell types particularly in those with high proliferative activity. The protein plays an essential mechanical role by facilitating the cohesion of sister chromatids during cell division ensuring successful chromosome segregation.
Biological function summary	Rad21 is essential in processes beyond chromatid cohesion. It forms part of the cohesin complex which also includes proteins like SMC1 SMC3 and SCC3/SA1 or SA2. This complex is central to maintaining genome stability by participating in DNA repair and regulating gene expression. Through these roles Rad21 contributes to cellular processes such as cell cycle progression and embryonic development.
Pathways	Rad21 integrates into the DNA damage response and cell cycle regulation pathways. The cohesin complex with Rad21 as an important factor acts alongside other proteins such as ATM and ATR in the DNA damage response ensuring the repair of double-strand breaks. Within the cell cycle Rad21 helps coordinate the timing and accuracy of cell division working with cyclin-dependent kinases.
Associated diseases and disorders	Rad21 has been linked to cancer and Cornelia de Lange syndrome. Mutations or dysregulation of Rad21 can result in tumorigenesis due to errors in chromosome segregation and compromised DNA repair. In Cornelia de Lange syndrome cohesin-related proteins like NIPBL and SMC1A also play a role indicating a disruption in the cohesin pathway's function. Understanding Rad21's involvement helps in developing targeted therapies for these conditions.

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.

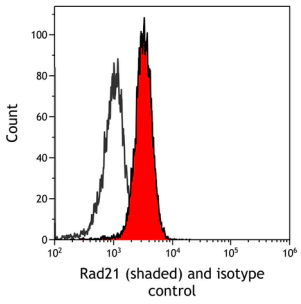
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In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
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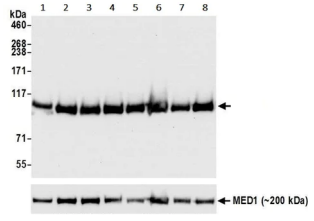
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3 product images



Flow Cytometry - Anti-Rad21 antibody [BLR052F] (ab243905)

Flow cytometry overlay histogram of 4% formaldehyde fixed Jurkat cells permeabilized with 90% methanol labeling human Rad21 with ab243905 at 1 µl per 1 x 10^6 cells. (shaded) compared with a Isotype control (unshaded). Secondary antibody details: Goat Anti-Rabbit IgG H&L (DyLight® 488) (ab96883)



Western blot - Anti-Rad21 antibody [BLR052F] (ab243905)

Rad21 Western blot staining using rabbit Anti-Rad21 antibody

Western blot analysis using ab243905 at 1/1000 dilution.
Lane 1: HeLa whole cell lysate (50 µg).

Lane 2: Jurkat whole cell lysate (50 µg).

Lane 3: HEK-293T whole cell lysate (50 µg).

Lane 4: RKO whole cell lysate (50 µg).

Lane 5: GaMG whole cell lysate (50 µg).

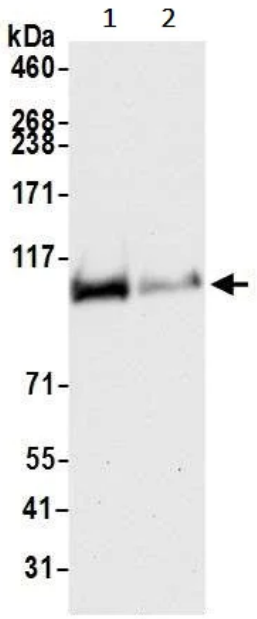
Lane 6: MCF7 whole cell lysate (50 µg).

Lane 7: A549 whole cell lysate (50 µg).

Lane 8: U-2 OS whole cell lysate (50 µg).

A HRP-conjugated goat anti-rabbit IgG antibody was used as the secondary. Detection: chemiluminescence with an exposure time of 3 seconds.
All lanes:
Western blot - Anti-Rad21 antibody [BLR052F] (ab243905)

Predicted band size: 72 kDa



Western blot - Anti-Rad21 antibody [BLR052F] (ab243905)

Rad21 Western blot staining using rabbit Anti-Rad21 antibody

Western blot analysis using ab243905 at 1/1000 dilution.
Lane 1: NIH/3T3 whole cell lysate (50 µg).

Lane 2: TCMK-1 whole cell lysate (50 µg).

A HRP-conjugated goat anti-rabbit IgG antibody was used as the secondary. Detection: chemiluminescence with an exposure time of 3 seconds.

All lanes:
Western blot - Anti-Rad21 antibody [BLR052F] (ab243905)

Predicted band size: 72 kDa

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