abcam

ab175215

Anti-Rad21 antibody [EPR12647]

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	EPR12647
Purification technique	Affinity purification Protein A
Concentration	0.457 - 0.492 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

IP

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000 - 1/5000
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/10 - 1/100
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Predicted

Species	Mouse, Rat
Dilution info	-
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	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	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.

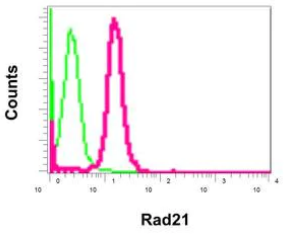
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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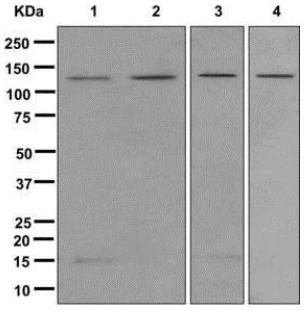
2 product images



Flow Cytometry (Intracellular) - Anti-Rad21 antibody [EPR12647] (ab175215)

Rad21 Flow Cytometry (Intracellular) staining using rabbit Anti-Rad21 antibody

Intracellular flow cytometric analysis of permeabilized K562 cells labeling Rad21 with ab175215 at 1/10 dilution (red) compared to a rabbit IgG negative control (green).



Western blot - Anti-Rad21 antibody [EPR12647] (ab175215)

All lanes:
Western blot - Anti-Rad21 antibody [EPR12647] (ab175215) at 1/1000 dilution

Lane 1:
THP-1 cell lysate at 10 µg

Lane 2:
293T cell lysate at 10 µg

Lane 3:
K562 cell lysate at 10 µg

Lane 4:
Hela cell lysate at 10 µg

Predicted band size: 72 kDa

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