abcam

ab248049

Anti-XRCC2 antibody [EPR5149] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR5149
Purification technique	Affinity purification Protein A

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	-
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	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information XRCC2

Function	Involved in the homologous recombination repair (HRR) pathway of double-stranded DNA, thought to repair chromosomal fragmentation, translocations and deletions. Part of the RAD51 paralog protein complex BCDX2 which acts in the BRCA1-BRCA2-dependent HR pathway. Upon DNA damage, BCDX2 acts downstream of BRCA2 recruitment and upstream of RAD51 recruitment. BCDX2 binds predominantly to the intersection of the four duplex arms of the Holliday junction and to junction of replication forks. The BCDX2 complex was originally reported to bind single-stranded DNA, single-stranded gaps in duplex DNA and specifically to nicks in duplex DNA.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab248049 is the carrier-free version of ab124900.

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.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

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

Activity summary	XRCC2 also known as X-ray repair cross-complementing protein 2 is a protein that plays a role in DNA repair mechanisms. It has a molecular mass of approximately 33 kDa. XRCC2 is expressed in various tissues with noticeable abundance in proliferative tissues due to their high demand for DNA repair processes. Mechanistically XRCC2 functions as part of the Rad51 paralog group facilitating homologous recombination repair of DNA double-strand breaks. Its involvement is quintessential for maintaining genomic stability.
Biological function summary	XRCC2 contributes to cellular maintenance by repairing DNA double-strand breaks through the homologous recombination pathway. It participates in the Rad51 paralog complex alongside other paralogs like Rad51B Rad51C Rad51D and XRCC3. This complex ensures precise repair and re-ligation of damaged DNA by assisting in strand exchange and stabilization. Such actions highlight XRCC2's role in preserving cell genetic integrity and preventing mutations.
Pathways	Homologous recombination and DNA repair are integral processes where XRCC2 operates. The homologous recombination pathway is critically linked with the maintenance of chromosome integrity during cell division. XRCC2 by cooperating with proteins like RAD51 and BRCA2 forms an essential part of recombinational DNA repair. Its interactions are necessary for orchestrating the repair process ensuring seamless recovery of the genetic code after disruptions.
Associated diseases and disorders	XRCC2 is associated closely with cancer vulnerabilities due to its role in DNA repair. Deficiencies or mutations in XRCC2 can lead to increased susceptibility to tumors and hereditary breast cancer given its involvement in stabilizing RAD51 function which is pivotal in suppressing tumor formation. The malfunction in XRCC2's DNA repair capabilities can also have connections with Fanconi anemia highlighting XRCC2’s importance to genetic disorders related to impaired DNA repair mechanisms.

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

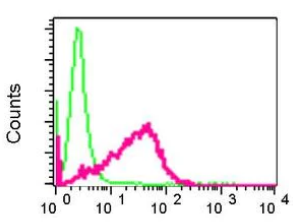
We do not recommend this combination. It is not covered by our product promise.

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.

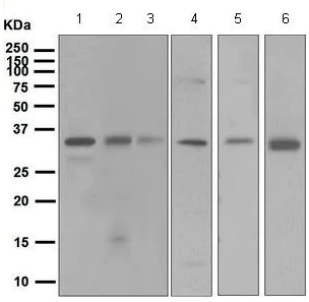
2 product images



Flow Cytometry (Intracellular) - Anti-XRCC2 antibody [EPR5149] - BSA and Azide free (ab248049)

XRCC2 Flow Cytometry (Intracellular) staining using rabbit Anti-XRCC2 antibody

This data was developed using ab124900, the same antibody clone in a different buffer formulation.
ab124900 at 1/100 dilution staining XRCC2 in permeablised HeLa cells by intracellular flow cytometry (red). Rabbit IgG negative control antibody (green).



Western blot - Anti-XRCC2 antibody [EPR5149] - BSA and Azide free (ab248049)

XRCC2 Western blot staining using rabbit Anti-XRCC2 antibody

This data was developed using ab124900, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-XRCC2 antibody [EPR5149] (ab124900) at 1/10000 dilution

Lane 1:
Human testis lysate at 10 µg

Lane 2:

HeLa lysate at 10 µg

Lane 3:
SW480 lysate at 10 µg

Lane 4:
SH-SY5Y lysate at 10 µg

Lane 5:
Caco 2 lysate at 10 µg

Lane 6:
Human kidney lysate at 10 µg

Secondary

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

Predicted band size: 32 kDa

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