abcam

ab249704

Anti-RECQ1 antibody [EPR8049(2)] - 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	EPR8049(2)
Purification technique	Affinity purification
Concentration	0.946 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	-

Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

IP

Not recommended

Species	Human
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Target data

See full target information RECQL

Function	DNA helicase that plays a role in DNA damage repair and genome stability (PubMed:15886194, PubMed:35025765, PubMed:7527136, PubMed:7961977, PubMed:8056767). Exhibits a Mg(2+)- and ATP-dependent DNA-helicase activity that unwinds single- and double-stranded DNA in a 3'-5' direction (PubMed:19151156, PubMed:35025765, PubMed:7527136, PubMed:8056767). Full-length protein unwinds forked DNA substrates, resolves Holliday junctions, and has DNA strand annealing activity (PubMed:19151156, PubMed:25831490). Plays a role in restoring regressed replication forks (PubMed:35025765). Required to restart stalled replication forks induced by abortive topoisomerase 1 and 2 lesions (PubMed:35025765). Does not unwind G-quadruplex DNA (PubMed:18426915). May play a role in the repair of DNA that is damaged by ultraviolet light or other mutagens (PubMed:15886194, PubMed:7961977).

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

ab249704 is the carrier-free version of ab172607.

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.

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	RECQ1 also known as RECQL or RECQL1 is a DNA helicase with a molecular mass around 73 kDa. It functions to unwind double-stranded DNA into single strands facilitating important processes like replication repair recombination and transcription. RECQ1 is expressed in various tissues with notable expression in rapidly dividing cells such as those in the thymus and testis. By unwinding DNA RECQ1 plays an important role in maintaining genomic stability and preventing DNA damage accumulation.
Biological function summary	RECQ1 influences genomic integrity by engaging in DNA repair processes. It is part of the RecQ helicase family which includes other helicases like BLM and WRN each with distinct roles in DNA metabolism. RECQ1 primarily participates in the base excision repair and homologous recombination repair pathways. It interacts with key proteins such as PARP1 and XRCC1 to fulfill its role in repairing DNA breaks thereby safeguarding the cell from genotoxic stress.
Pathways	RECQ1 significantly influences the homologous recombination and base excision repair pathways. In the homologous recombination pathway RECQ1 associates with proteins like RAD51 to facilitate the accurate repair of DNA double-strand breaks. In the base excision repair pathway RECQ1 works alongside APE1 to address single-strand breaks ensuring the continuity of the DNA replication process. These pathways are central to genomic integrity making RECQ1 a critical player in cellular responses to DNA damage.
Associated diseases and disorders	RECQ1 plays a relevant role in certain cancers and premature aging syndromes. Its dysfunction can lead to chromosomal instability which may contribute to the development of various cancers including breast cancer. Additionally RECQ1's interaction with tumor suppressor proteins such as p53 further links it to cancer pathways and the cellular response to DNA damage. Mutations or diminished activity of RECQ1 have been associated with increased susceptibility to genomic disorders similar to those found in other RecQ helicase deficiencies such as Werner syndrome highlighting its importance in maintaining health.

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

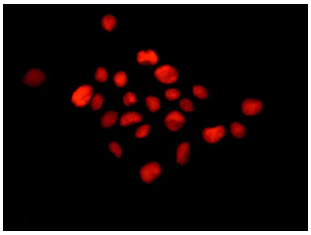
We do not recommend this combination. It is not covered by our product promise.

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.

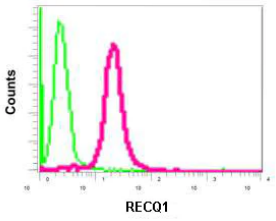
5 product images



Immunocytochemistry/ Immunofluorescence - Anti-RECQ1 antibody [EPR8049(2)] - BSA and Azide free (ab249704)

RECQ1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-RECQ1 antibody

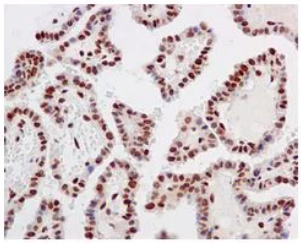
This data was developed using ab172607, the same antibody clone in a different buffer formulation.
Immunofluorescent analysis of 293T cells labeling RECQ1 with ab172607 at 1/250 dilution.



Flow Cytometry (Intracellular) - Anti-RECQ1 antibody [EPR8049(2)] - BSA and Azide free (ab249704)

RECQ1 Flow Cytometry (Intracellular) staining using rabbit Anti-RECQ1 antibody

This data was developed using ab172607, the same antibody clone in a different buffer formulation.
Intracellular flow cytometric analysis of permeabilized Ramos cells labeling RECQ1 with ab172607 at 1/10 dilution (red) compared to a Rabbit IgG negative control (green).

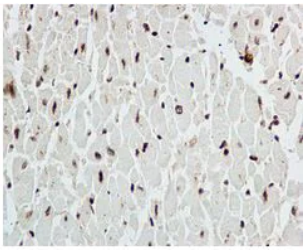


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RECQ1 antibody [EPR8049(2)] - BSA and Azide free (ab249704)

RECQ1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-RECQ1 antibody

This data was developed using ab172607, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded Human thyroid gland carcinoma tissue labeling RECQ1 with ab172607 at 1/50 dilution.

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

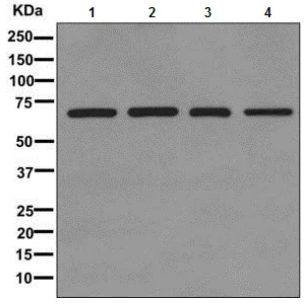


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-RECQ1 antibody [EPR8049(2)] - BSA and Azide free (ab249704)

RECQ1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-RECQ1 antibody

This data was developed using ab172607, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded Human heart tissue labeling RECQ1 with ab172607 at 1/50 dilution.

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Western blot - Anti-RECQ1 antibody [EPR8049(2)] - BSA and Azide free (ab249704)

RECQ1 Western blot staining using rabbit Anti-RECQ1 antibody

This data was developed using ab172607, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-RECQ1 antibody [EPR8049(2)] (ab172607) at 1/1000 dilution

Lane 1:
HeLa cell lysate at 10 µg

Lane 2:
Raji cell lysate at 10 µg

Lane 3:
Ramos cell lysate at 10 µg

Lane 4:
293T cell lysate at 10 µg

Predicted band size: 73 kDa

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