abcam

ab245219

Anti-FANCI antibody [EPR23903-124]

Recombinant | RabMAb | 20ul selling size

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	EPR23903-124
Purification technique	Affinity purification Protein A
Concentration	0.591 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/4000
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IP

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/2000
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/600
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information FANCI

Function	Plays an essential role in the repair of DNA double-strand breaks by homologous recombination and in the repair of interstrand DNA cross-links (ICLs) by promoting FANCD2 monoubiquitination by FANCL and participating in recruitment to DNA repair sites (PubMed:17412408, PubMed:17460694, PubMed:17452773, PubMed:19111657, PubMed:36385258). The FANCI-FANCD2 complex binds and scans double-stranded DNA (dsDNA) for DNA damage; this complex stalls at DNA junctions between double-stranded DNA and single-stranded DNA (PubMed:19589784). Participates in S phase and G2 phase checkpoint activation upon DNA damage (PubMed:25862789).

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	FANCI also known as Fanconi anemia group I protein is an important player in DNA repair processes. This protein has a molecular mass of approximately 150 kDa. It is ubiquitously expressed with notable levels found in tissues that undergo high rates of cell division. FANCI participates mechanically within the DNA repair mechanism by interacting directly with DNA alongside its partner protein FANCD2 to form a tight complex that recognizes and binds to sites of DNA damage.
Biological function summary	The FANCI protein acts as part of the multiprotein Fanconi anemia (FA) core complex. This complex Functions in the repair of DNA interstrand crosslinks which are severe forms of DNA damage. Successful function of FANCI is important for maintaining genomic stability and subsequently proper cell cycle progression. It partners with proteins including FANCD2 to coordinate the homologous recombination repair process. Defective FANCI leads to disrupted DNA repair resulting in cellular damage and apoptosis.
Pathways	FANCI plays a major role in the Fanconi anemia pathway and the broader DNA damage response system. The FA pathway which involves over 20 proteins forms a network integral in repairing DNA crosslinks. FANCI tightly interacts with proteins like FANCD2 to initiate DNA repair in response to damage. The successful coordination of these proteins ensures the stability of genetic material throughout the cell cycle affecting cell fate decisions such as survival or apoptosis.

Associated diseases and disorders	FANCI mutations are directly linked to Fanconi anemia a genetic disorder characterized by bone marrow failure and increased cancer risk. Mutations can impair the protein's function causing defective DNA repair capability. Additionally FANCI's involvement in DNA repair associates it with breast cancer where malfunction or reduced expression of FANCI is observed. The protein interacts with tumor suppressors like BRCA1 and BRCA2 linking it to pathways involved in hereditary breast cancer predisposition.

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

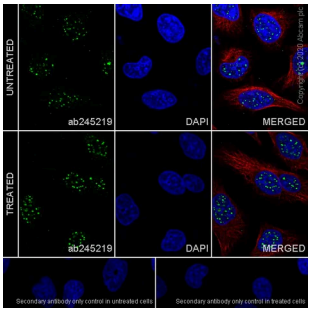
We do not recommend this combination. It is not covered by our product promise.

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.

8 product images

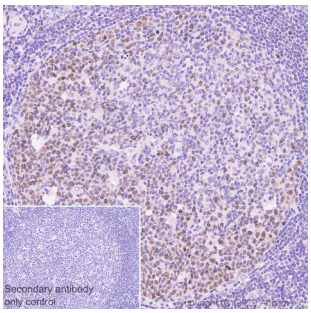


Immunocytochemistry/ Immunofluorescence - Anti-FANCI antibody [EPR23903-124] (ab245219)

FANCI Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-FANCI antibody

Immunofluorescent analysis of 100% methanol-fixed HeLa cells labelling FANCI with ab245219 at 1/100 dilution, followed by ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) antibody at 1/1000 dilution (Green). Confocal image showing nuclear foci staining in HeLa cell line, the signal increased a little after treatment with Mitomycin C (500ng/ml) for 6h. FANCI forms nuclear foci in cells in the absence or presence of exogenous DNA damage (PMID: 19561358). ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 dilution (Red). The Nuclear counterstain was DAPI (Blue).

Secondary antibody only control: Secondary antibody is ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 dilution.

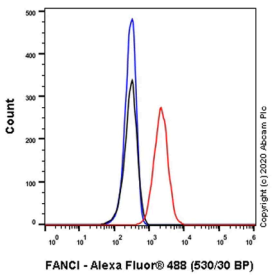


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-FANCI antibody [EPR23903-124] (ab245219)

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

Immunohistochemical analysis of paraffin-embedded Human tonsil tissue labeling FANCI with ab245219 at 1/4000 dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Nuclear staining in human tonsil. The section was incubated with ab245219 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

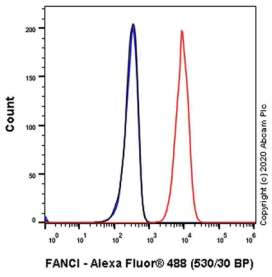
Heat mediated antigen retrieval with Citrate buffer (pH 6.0, epitope retrieval solution 1) for 10 mins.



Flow Cytometry (Intracellular) - Anti-FANCI antibody [EPR23903-124] (ab245219)

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

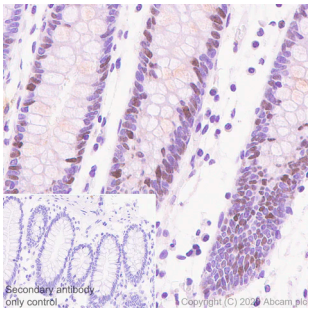
Intracellular flow cytometric analysis of 4% paraformaldehyde fixed, 90% methanol permeabilized HeLa (Human cervix adenocarcinoma epithelial cell) cells labelling FANCI with ab245219 at 1/600 dilution (0.1ug) (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue).
A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/2000 dilution was used as the secondary antibody.



Flow Cytometry (Intracellular) - Anti-FANCI antibody [EPR23903-124] (ab245219)

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

Intracellular flow cytometric analysis of 4% paraformaldehyde fixed, 90% methanol permeabilized Jurkat (Human T cell leukemia T lymphocyte) cells labelling FANCI with ab245219 at 1/600 dilution (0.1ug) (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue).
A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/2000 dilution was used as the secondary antibody.

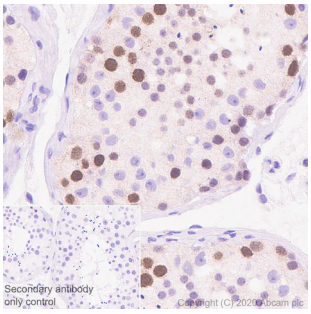


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-FANCI antibody [EPR23903-124] (ab245219)

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

Immunohistochemical analysis of paraffin-embedded Human colon tissue labeling FANCI with ab245219 at 1/4000 dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Nuclear staining in human colon. The section was incubated with ab245219 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

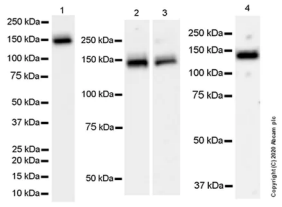
Heat mediated antigen retrieval with Citrate buffer (pH 6.0, epitope retrieval solution 1) for 10 mins.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-FANCI antibody [EPR23903-124] (ab245219)

Immunohistochemical analysis of paraffin-embedded Human testis tissue labeling FANCI with ab245219 at 1/4000 dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Nuclear staining in human testis (PMID: 31219578). The section was incubated with ab245219 for 30 mins at room temperature.The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Heat mediated antigen retrieval with Citrate buffer (pH 6.0, epitope retrieval solution 1) for 10 mins.



Western blot - Anti-FANCI antibody [EPR23903-124] (ab245219)

Blocking and diluting buffer and concentration: 5% NFDM/TBST.
Exposure times: Lanes 1-3: 26 seconds; Lane 4: 125 seconds.

All lanes:
Western blot - Anti-FANCI antibody [EPR23903-124] (ab245219) at 1/5000 dilution

Lane 1:
HeLa (human cervix adenocarcinoma epithelial cell) whole cell lysate at 20 µg

Lane 2:
Jurkat (human t cell leukemia T lymphocyte) whole cell lysate at 20 µg

Lane 3:
Raji (human burkitts lymphoma B lymphocyte) whole cell lysate at 20 µg

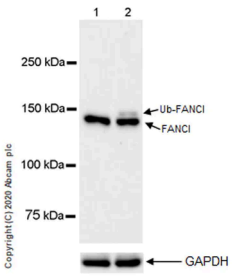
Lane 4:
Human testis tissue lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ab97051) at 1/50000 dilution

Predicted band size: 149 kDa

Observed band size: 149 kDa



Western blot - Anti-FANCI antibody [EPR23903-124] (ab245219)

Blocking and diluting buffer and concentration: 5% NFDM/TBST.
The more slowly migrating band is a monoubiquitinated form of FANCI, which can be induced by Mitomycin C treatment.

The expression profile observed is consistent with what has been described in the literature (PMID: 17460694).

Exposure time: 70 seconds.

All lanes:
Western blot - Anti-FANCI antibody [EPR23903-124] (ab245219) at 1/2000 dilution

Lane 1:
Untreated HeLa (human cervix adenocarcinoma epithelial cell) whole cell lysate at 20 µg

Lane 2:
HeLa treated with 500ng/ml Mitomycin C for 6h, whole cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ab97051) at 1/100000 dilution

Predicted band size: 149 kDa

Observed band size: 149 kDa

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