abcam

ab273633

Anti-Geminin antibody [EPR23754-87] - 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	EPR23754-87
Purification technique	Affinity purification Protein A
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Mouse
Dilution info	-

Notes	-

Expected

Species	Rat, Human
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

IHC-P

Tested

Species	Mouse, Human, Rat
Dilution info	-
Notes	-

ICC/IF

Not recommended

Species	Mouse, Human, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human, Mouse
Dilution info	-

Notes	-

Expected

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

Target data

See full target information GMNN

Function	Inhibits DNA replication by preventing the incorporation of MCM complex into pre-replication complex (pre-RC) (PubMed:14993212, PubMed:20129055, PubMed:24064211, PubMed:9635433). It is degraded during the mitotic phase of the cell cycle (PubMed:14993212, PubMed:24064211, PubMed:9635433). Its destruction at the metaphase-anaphase transition permits replication in the succeeding cell cycle (PubMed:14993212, PubMed:24064211, PubMed:9635433). Inhibits histone acetyltransferase activity of KAT7/HBO1 in a CDT1-dependent manner, inhibiting histone H4 acetylation and DNA replication licensing (PubMed:20129055). Inhibits the transcriptional activity of a subset of Hox proteins, enrolling them in cell proliferative control (PubMed:22615398).

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

ab273633 is the carrier-free version of ab246509.

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	Geminin also referred to as GMNN is a protein that regulates DNA replication. It has approximately 25 kDa mass. Geminin inhibits DNA replication by preventing the loading of the mini-chromosome maintenance complex onto DNA during the cell cycle. This function ensures that DNA replication takes place only once per cell cycle. Geminin expresses mainly in tissues with high proliferative activity such as the developing nervous system and hematopoietic cells. Its interaction with other proteins plays a significant role in controlling cell cycle progression.
Biological function summary	In a cellular context Geminin forms part of a complex with the nuclear protein Cdt1. This complex is essential in the regulation of the cell cycle's S phase. Geminin's function restricts DNA replication by binding to Cdt1 and stopping its activity which is necessary during the G1/S phase transition. By doing so it preserves the integrity of genetic information and prevents re-replication. Geminin's inhibition remains strict until it is degraded during mitosis allowing Cdt1 to resume its function in the following cell cycle.
Pathways	The regulation of Geminin is important to maintaining proper DNA replication and cell cycle integrity. Geminin plays a role in the cell cycle control pathway particularly during the G1 to S phase transition. Additionally it interfaces with other proteins like Paxillin which is involved in cell adhesion and movement. Although not directly linked in a pathway Paxillin's role in regulating cellular dynamics can influence cell cycle processes in which Geminin is involved. Geminin also serves as a K blocker relevant in maintaining genetic stability.
Associated diseases and disorders	Aberrations in Geminin activity can lead to severe conditions such as cancer. Its overexpression or misregulation has a link to various tumor types due to its effect on uncontrolled cell proliferation. Geminin's interaction with proteins like Paxillin and Cyclin-dependent kinases also relates to cancer progression as these interactions may involve changes in cellular adhesion and cycle checkpoints.

Therefore understanding Geminin's role offers valuable insight for potential therapeutic targets in oncology.

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

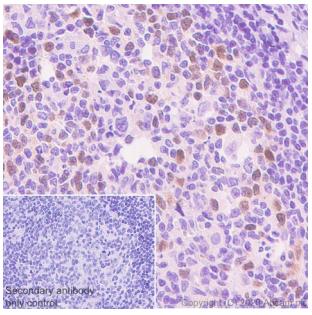
We do not recommend this combination. It is not covered by our product promise.

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



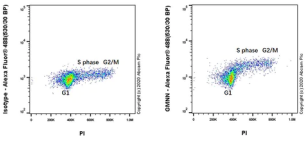
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Geminin antibody [EPR23754-87] - BSA and Azide free (ab273633)

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

Immunohistochemical analysis of paraffin-embedded human tonsil tissue labeling Geminin with ab246509 at 1/100 dilution followed by ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Positive staining on human tonsil (PMID: 12107111). The section was incubated with ab246509 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 ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab246509).

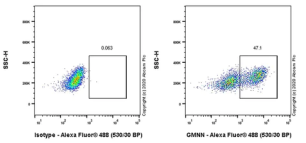


Flow Cytometry (Intracellular) - Anti-Geminin antibody [EPR23754-87] - BSA and Azide free (ab273633)

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

Intracellular flow cytometric analysis of 80% methanol fixed, 0.1% Tween-20 permeabilized HeLa (Human cervix adenocarcinoma epithelial cell) cells labelling Geminin with ab246509 at 1/400 dilution (0.1µg) (Right panel) compared with a Rabbit monoclonal IgG (ab172730) isotype control (Left panel). Goat anti rabbit IgG (Alexa Fluor®488, ab150077) at 1/2000 dilution was used as the secondary antibody.
Cells were pre-treated with 20ug/ml RNaseA for 30 mins to minimize the binding between PI and RNA. Then intracellular stained with ab246509 and PI. Increase expression in S phase and G2/M phase was reported in literature (PMID: 28179914).

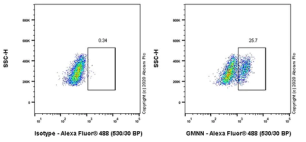
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab246509).



Flow Cytometry (Intracellular) - Anti-Geminin antibody [EPR23754-87] - BSA and Azide free (ab273633)

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

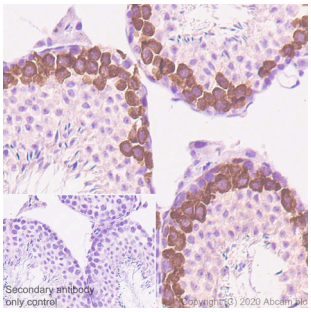
Intracellular flow cytometric analysis of 4% paraformaldehyde fixed, 90% methanol permeabilized HEK-293 (Human embryonic kidney epithelial cell) cells labelling Geminin with ab246509 at 1/400 dilution (0.1µg) (Right panel) compared with a Rabbit monoclonal IgG (ab172730) isotype control (Left panel). Goat anti rabbit IgG (Alexa Fluor®488, ab150077) at 1/2000 dilution was used as the secondary antibody.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab246509).



Flow Cytometry (Intracellular) - Anti-Geminin antibody [EPR23754-87] - BSA and Azide free (ab273633)

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

Intracellular flow cytometric analysis of 4% paraformaldehyde fixed, 90% methanol permeabilized MEF (Mouse embryonic fibroblast (immortalized)) cells labelling Geminin with ab246509 at 1/400 dilution (0.1µg) (Right panel) compared with a Rabbit monoclonal IgG (ab172730) isotype control (Left panel). Goat anti rabbit IgG (Alexa Fluor®488, ab150077) at 1/2000 dilution was used as the secondary antibody.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab246509).



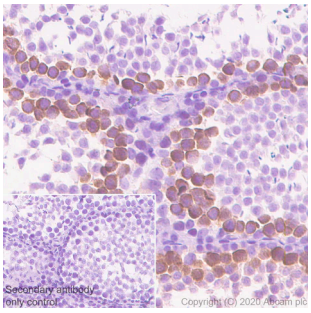
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Geminin antibody [EPR23754-87] - BSA and Azide free (ab273633)

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

Immunohistochemical analysis of paraffin-embedded mouse testis tissue labeling Geminin with ab246509 at 1/500 followed by ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Positive staining on mouse testis (PMID: 22898305, PMID: 28690291). The section was incubated with ab246509 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 ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab246509).



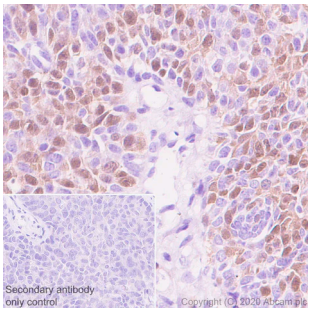
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Geminin antibody [EPR23754-87] - BSA and Azide free (ab273633)

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

Immunohistochemical analysis of paraffin-embedded rat testis tissue labeling Geminin with ab246509 at 1/500 dilution followed by ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Positive staining on rat testis (PMID: 22898305, PMID: 28690291). The section was incubated with ab246509 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 Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab246509).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Geminin antibody [EPR23754-87] - BSA and Azide free (ab273633)

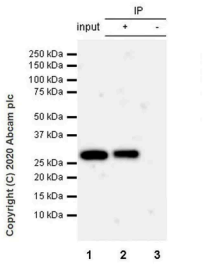
Geminin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Geminin antibody

Immunohistochemical analysis of paraffin-embedded mouse breast carcinoma tissue labeling Geminin with ab246509 at 1/500 dilution followed by ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Positive staining on mouse breast carcinoma (PMID: 12107111). The section was incubated with ab246509 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 ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab246509).



Immunoprecipitation - Anti-Geminin antibody [EPR23754-87] - BSA and Azide free (ab273633)

Geminin was immunoprecipitated from 0.35 mg mouse testis tissue lysate with ab246509 at 1/30 dilution (2µg in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab246509 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP)(ab131366) was used at 1/5000 dilution.
Lane 1: Mouse testis tissue lysate 10µg

Lane 2: ab246509 IP in mouse testis tissue lysate

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab246509 in mouse testis tissue lysate

Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 3 minutes.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab246509).

All lanes:
Immunoprecipitation - Anti-Geminin antibody [EPR23754-87] (ab246509)

Predicted band size: 24 kDa

Observed band size: 26 kDa

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