abcam

ab104306

Anti-Geminin antibody [1A8]

Anti-Geminin antibody [1A8] (ab104306) is a mouse monoclonal antibody detecting Geminin in **Western Blot, Flow Cytometry, IHC-P, ICC/IF**. Suitable for **Human**.

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Fragment Protein within Human GMNN aa 100 to C-terminus. The exact immunogen used to generate this antibody is proprietary information. Database link O75496
Carrier free	Yes
Clone number	1A8
Purity	Tissue culture supernatant
Light chain type	kappa
Purification notes	Purified from TCS.

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	-
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

WB

Tested

Species	Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
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	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

What is this antibody validated in?
Anti-Geminin antibody [1A8] (ab104306) is a mouse monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Flow Cyt), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in Human samples.

What is the molecular weight of Geminin?
Anti-Geminin [1A8] (ab104306) specifically detects a band for Geminin (UniProt: O75496) at a molecular weight of 24kDa.

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

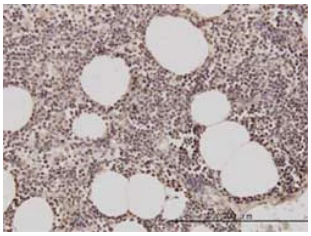
We do not recommend this combination. It is not covered by our product promise.

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.

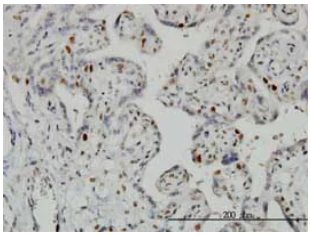
6 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Geminin antibody [1A8] (ab104306)

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

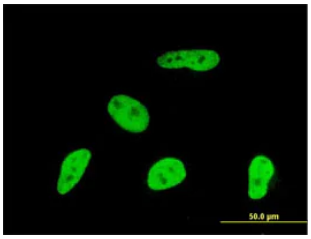
ab104306, at 3 µg/ml, staining Geminin in formalin-fixed paraffin-embedded Human lymph node by Immunohistochemistry.
This image was generated using the ascites version of the product.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Geminin antibody [1A8] (ab104306)

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

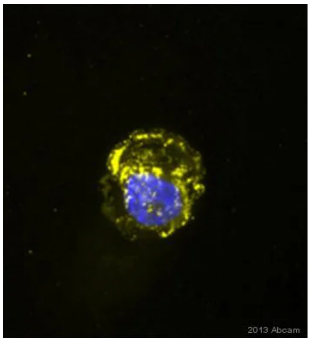
ab104306, at 1µg/ml, staining Geminin in formalin-fixed paraffin-embedded Human placenta by Immunohistochemistry.
This image was generated using the ascites version of the product.



Immunocytochemistry/ Immunofluorescence - Anti-Geminin antibody [1A8] (ab104306)

Geminin Immunocytochemistry/ Immunofluorescence staining using mouse Anti-Geminin antibody

ab104306, at 10 µg/ml, staining Geminin in HeLa cells by Immunofluorescence.
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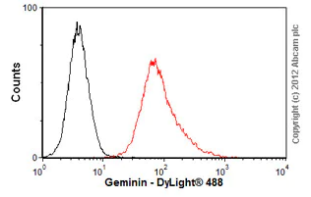


This image is courtesy of a customer review submitted by Melody Jimenez

Immunocytochemistry/ Immunofluorescence - Anti-Geminin antibody [1A8] (ab104306)

Immunofluorescence analysis of Caki-2 (Clear cell renal carcinoma) cells, staining Geminin with ab104306.

Cells were fixed with formaldehyde, permeabilized with 0.25% Triton X-100 and blocked with 1% BSA for 30 minutes at 25°C. Primary antibody was concentrated using ab102778 Antibody Concentration Kit and conjugated to Rhodamine using ab102915 EasyLink Rhodamine Conjugation Kit. Samples were incubated with conjugated primary antibody (20 µg/ml in diluent) for 2 hours at 25°C.
This image was generated using the ascites version of the product.

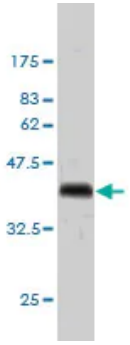


Flow Cytometry - Anti-Geminin antibody [1A8] (ab104306)

Geminin Flow Cytometry staining using mouse Anti-Geminin antibody

Overlay histogram showing HeLa cells stained with ab104306 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were

then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab104306, 1µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] (ab91353, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a positive signal in HeLa cells fixed with 4% paraformaldehyde (10 min)/permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions.
This image was generated using the ascites version of the product.



Western blot - Anti-Geminin antibody [1A8] (ab104306)

The tagged immunogen has a predicted MWt of 37 kDa.
This image was generated using the ascites version of the product.

All lanes:
Western blot - Anti-Geminin antibody [1A8] (ab104306) at 5 µg/mL

All lanes:
Immunogen at 0.2 µg

Predicted band size: 24 kDa

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