abcam

ab316018

Anti-Nestin antibody [RM2043] - Neural Stem Cell Marker

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	Multiclonal
Immunogens	The exact immunogen used to generate this antibody is proprietary information.
Clone number	RM2043
Purification technique	Affinity purification Protein A
Specificity	Unsuitable for rat IHC-Fr.
Concentration	0.497 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/2000

Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Mouse
Dilution info	1/4000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Rat
Dilution info	1/4000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

IHC-Fr

Tested

Species	Mouse
Dilution info	1/5000
Notes	-

Expected

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

Not recommended

Species	Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Mouse

Dilution info	1/250
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	1/5000
Notes	-

Expected

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

WB

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information Nes

Function	Required for brain and eye development. Promotes the disassembly of phosphorylated vimentin intermediate filaments (IF) during mitosis and may play a role in the trafficking and distribution of IF proteins and other cellular factors to

daughter cells during progenitor cell division (By similarity). Required for survival, renewal and mitogen-stimulated proliferation of neural progenitor cells.

Storage

Shipped at conditions	Blue Ice
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

What are recombinant multiclonals?
Recombinant multiclonals are a mixture of recombinant antibodies co-expressed from a library of heavy and light chains. They offer several advantages including:

- The sensitivity of polyclonal antibodies by recognising multiple epitopes
- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

View our range of recombinant multiclonal antibodies.

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.

Supplementary info

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

Activity summary	Nestin also known as NES is an intermediate filament protein with a molecular weight of about 220 kDa. Nestin features prominently in cells related to the nervous system including neural stem cells and it serves as a structural component in these cells. Nestin also appears in substantial amounts during the development of the nervous system and is important for cell structural organization. It is often used as a Nestin marker in research particularly with

	Nestin antibodies for identifying the presence of neural stem cells and tracking their developmental course. Researchers frequently utilize techniques like Nestin IHC (immunohistochemistry) and Nestin western blot to stain and detect Nestin allowing detailed investigations into its expression in various tissues.
Biological function summary	Nestin plays a significant role in the dynamic remodeling of the cytoskeleton. It does not act as a solitary element but forms part of a larger protein complex involved in maintaining and organizing cellular structure. This property grants cells flexibility in shape and resilience during the rapid changes in development and specialization. The role of Nestin in the cellular architecture allows it to contribute to processes such as cell migration and proliferation critical during tissue development and repair.
Pathways	Nestin integrates into networks that regulate stem cell behavior and neurogenesis. It tightly interacts within the pathways involving cell cycle regulation and differentiation. For example the Wnt and Notch signaling pathways modulate its expression to influence neural stem cell fate and patterning during development. Protein interactions between Nestin and other cytoskeletal elements like vimentin facilitate its roles in these pathways adapting the cellular environment for specific developmental activities.
Associated diseases and disorders	Nestin associates with various pathological conditions including brain tumors and muscular dystrophies. Its expression is aberrant in many forms of gliomas where it often signifies a higher grade of malignancy. Within these tumors Nestin connects to oncogenic signaling pathways involving proteins such as the epidermal growth factor receptor (EGFR). Moreover in muscular dystrophies Nestin's expression in regenerating muscle fibers illustrates its involvement in cellular repair mechanisms potentially interacting with dystrophin a protein important for muscle integrity. Research on anti-Nestin antibodies continues to clarify its role in these diseases potentially offering diagnostic or therapeutic insights.

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

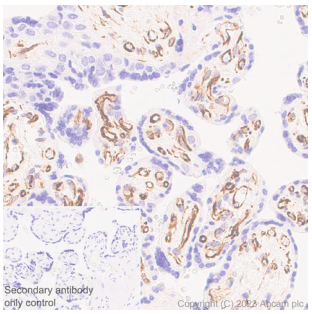
We do not recommend this combination. It is not covered by our product promise.

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.

9 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Nestin antibody [RM2043] - Neural Stem Cell Marker (ab316018)

Nestin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human placenta using rabbit Anti-Nestin antibody

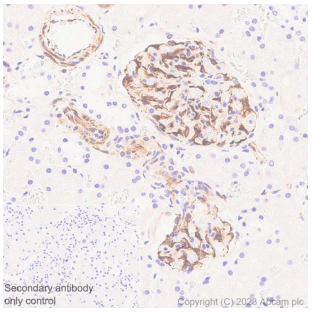
Immunohistochemical analysis of paraffin-embedded Human placenta tissue labeling Nestin with ab316018 at 1/2000 (0.249 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on blood vessels of human placenta. The section was incubated with ab316018 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 LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Nestin antibody [RM2043] - Neural Stem Cell Marker (ab316018)

Nestin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human kidney using rabbit Anti-Nestin antibody

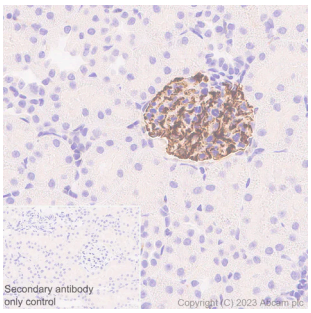
Immunohistochemical analysis of paraffin-embedded Human kidney tissue labeling Nestin with ab316018 at 1/2000 (0.249 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on blood vessels of human kidney. The section was incubated with ab316018 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 LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Nestin antibody [RM2043] - Neural Stem Cell Marker (ab316018)

Nestin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Rat kidney using rabbit Anti-Nestin antibody

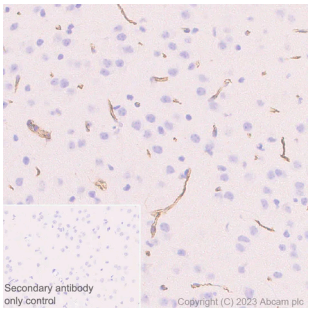
Immunohistochemical analysis of paraffin-embedded Rat kidney tissue labeling Nestin with ab316018 at 1/4000 (0.124 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on blood vessels of of rat kidney. The section was incubated with ab316018 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 LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Nestin antibody [RM2043] - Neural Stem Cell Marker (ab316018)

Nestin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Mouse cerebrum using rabbit Anti-Nestin antibody

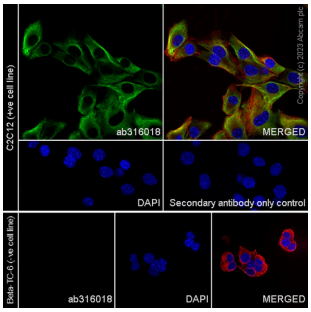
Immunohistochemical analysis of paraffin-embedded Mouse cerebrum tissue labeling Nestin with ab316018 at 1/4000 (0.124 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on blood vessels of mouse cerebrum. The section was incubated with ab316018 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 LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Immunocytochemistry/ Immunofluorescence - Anti-Nestin antibody [RM2043] - Neural Stem Cell Marker (ab316018)

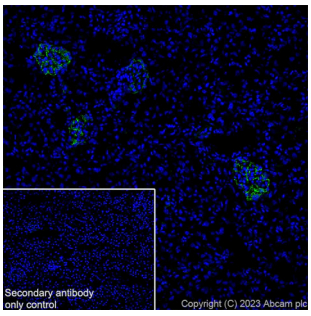
Nestin Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Nestin antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized C2C12 (mouse myoblast) cells labelling Nestin with ab316018 at 1/250 (1.988 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 (2 ug/mL) dilution (Green).

Confocal image showing cytoplasmic staining in C2C12 cell line.
Negative control: Beta-TC-6.
Image was taken with a confocal microscope(Leica-Microsystems, TCS SP8).

ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 (2.5ug/ml) dilution (Red). The Nuclear counterstain was DAPI (Blue).

Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 (2 ug/mL) dilution.



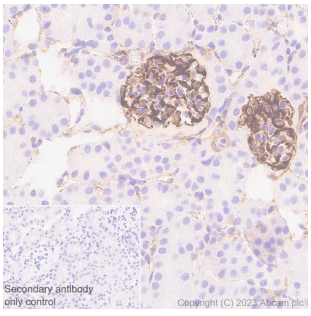
Immunohistochemistry (Frozen sections) - Anti-Nestin antibody [RM2043] - Neural Stem Cell Marker (ab316018)

Nestin Immunohistochemistry (Frozen sections) staining of Mouse kidney (fresh frozen) using rabbit Anti-Nestin antibody

Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen Mouse kidney (fresh frozen) tissue labeling Nestin with ab316018 at 1/5000 (0.099 ug/ml) dilution followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 (2 ug/ml) dilution (Green).

Confocal image showing positive staining in glomerulus of mouse kidney. The nuclear counterstain was DAPI (Blue). The section was incubated with ab316018 for 60 mins at room temperature. The section was then mounted using Fluoromount®. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

Secondary antibody control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 (2 ug/ml) dilution.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Nestin antibody [RM2043] - Neural Stem Cell Marker (ab316018)

Nestin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Mouse kidney using rabbit Anti-Nestin antibody

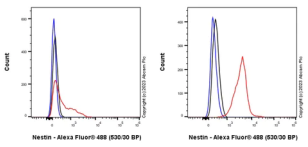
Immunohistochemical analysis of paraffin-embedded Mouse kidney tissue labeling Nestin with ab316018 at 1/4000 (0.124 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on blood vessels of of mouse kidney. The section was incubated with ab316018 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 LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



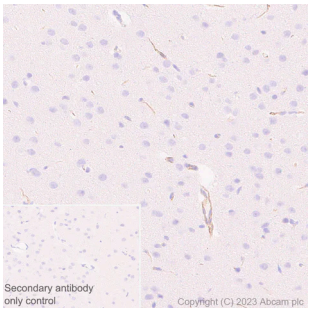
Flow Cytometry (Intracellular) - Anti-Nestin antibody [RM2043] - Neural Stem Cell Marker (ab316018)

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

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized Beta-TC-6 (mouse pancreas insulinoma beta cell, Left) / C2C12 (mouse myoblast, Right) cells labelling Nestin with ab316018 at 1/5000 dilution (0.01 ug)/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).

Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.

Negative control: Beta-TC-6.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Nestin antibody [RM2043] - Neural Stem Cell Marker (ab316018)

Nestin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Rat cerebrum using rabbit Anti-Nestin antibody

Immunohistochemical analysis of paraffin-embedded Rat cerebrum tissue labeling Nestin with ab316018 at 1/4000 (0.124 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on blood vessels of rat cerebrum. The section was incubated with ab316018 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 LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.

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