abcam

ab176571

Anti-Nestin antibody [EPR1301(2)] - Neural Stem Cell Marker

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	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	EPR1301(2)
Purification technique	Affinity purification Protein A
Concentration	1.712 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/1000
Notes	The use of an HRP/AP polymerized secondary antibody is recommended. **For unpurified use at 1/250 - 1/500.**

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

IP

Not recommended

Species	Human
Dilution info	-
Notes	-

WB

Not recommended

Species	Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/50 - 1/100
Notes	**For unpurified use at 1/50 - 1/100.**

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/160
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. Required for survival, renewal and mitogen-stimulated proliferation of neural progenitor cells (By similarity).

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

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.

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.

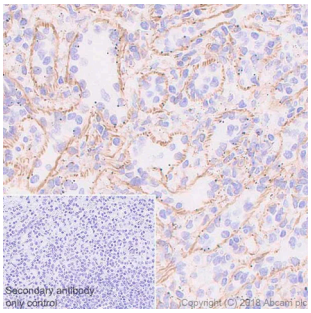
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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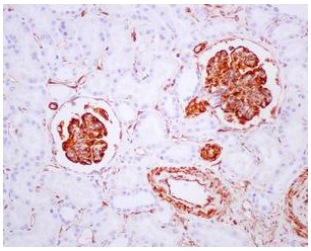
7 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Nestin antibody [EPR1301(2)] - Neural Stem Cell Marker (ab176571)

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

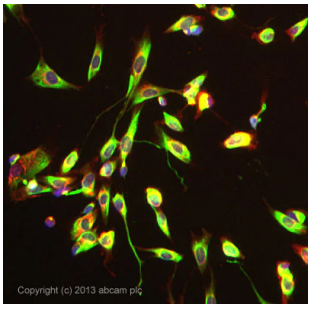
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human spleen tissue sections labeling Nestin with purified ab176571 at 1:1000 dilution (1.65 µg/ml). Heat mediated antigen retrieval was performed using ab93684 (Tris/EDTA buffer, pH 9.0). ImmunoHistoProbe one step HRP Polymer (ready to use)was used as the secondary antibody. Negative control:PBS instead of the primary antibody. Hematoxylin was used as a counterstain.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Nestin antibody [EPR1301(2)] - Neural Stem Cell Marker (ab176571)

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

Immunohistochemical analysis of paraffin-embedded human kidney tissue labeling Nestin using ab176571 at a 1/250 dilution.
Heat mediated antigen retrieval was performed with citrate buffer pH 6 before commencing with IHC staining protocol.

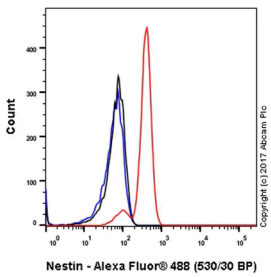


Immunocytochemistry/ Immunofluorescence - Anti-Nestin antibody [EPR1301(2)] - Neural Stem Cell Marker (ab176571)

Nestin Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Nestin antibody

ICC/IF image of ab176571 stained SK-N-SH (Human neuroblastoma cell line) cells.
The cells were fixed in 100% methanol (5 min) and then incubated in 1% BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilize the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody ab176571 at 5 µg/ml overnight at +4°C. The secondary antibody (pseudo-colored green) was Alexa Fluor® 488 goat anti-

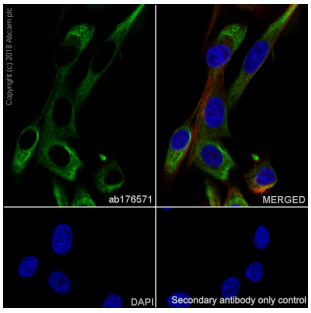
rabbit (ab150081) IgG (H+L) preadsorbed, used at a 1/1000 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (pseudo-colored red) at a 1/200 dilution for 1h at room temperature. DAPI was used to stain the cell nuclei (pseudo-colored blue) at a concentration of 1.43 µM for 1hour at room temperature.



Flow Cytometry (Intracellular) - Anti-Nestin antibody [EPR1301(2)] - Neural Stem Cell Marker (ab176571)

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

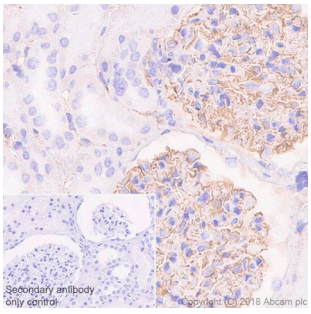
Intracellular Flow Cytometry analysis of SH-SY5Y (human neuroblastoma) cells labeling Nestin with purified ab176571 at 1/160 dilution (10µg/ml) (red). Cells were fixed with 4% paraformaldehyde and permeabilized with 90% methanol. A Goat anti rabbit IgG (Alexa Fluor® 488) (1/2000 dilution) was used as the secondary antibody. Rabbit monoclonal IgG (Black) was used as the isotype control, cells without incubation with primary antibody and secondary antibody (Blue) were used as the unlabeled control.



Immunocytochemistry/ Immunofluorescence - Anti-Nestin antibody [EPR1301(2)] - Neural Stem Cell Marker (ab176571)

Nestin Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Nestin antibody

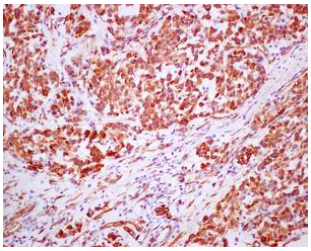
Immunocytochemistry/ Immunofluorescence analysis of U-87 MG (Human glioblastoma-astrocytoma epithelial cell) cells labeling Nestin with purified ab176571 at 1:150 dilution (10 µg/ml). Cells were fixed in 100% Methanol and permeabilized with None. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1:200 (2.5 µg/ml). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody at 1:1000 (2 µg/ml) dilution. DAPI nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Nestin antibody [EPR1301(2)] - Neural Stem Cell Marker (ab176571)

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

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human kidney tissue sections labeling Nestin with purified ab176571 at 1:1000 dilution (1.65 µg/ml). Heat mediated antigen retrieval was performed using ab93684 (Tris/EDTA buffer, pH 9.0). ImmunoHistoProbe one step HRP Polymer (ready to use)was used as the secondary antibody. Negative control:PBS instead of the primary antibody. Hematoxylin was used as a counterstain.



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

Immunohistochemical analysis of paraffin-embedded human melanoma tissue labeling Nestin using ab176571 at a 1/250 dilution.
Heat mediated antigen retrieval was performed with citrate buffer pH 6 before commencing with IHC staining protocol.

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