abcam

ab18102

Anti-Nestin antibody [2C1.3A11] - Neural Stem Cell Marker

Anti-Nestin antibody [2C1.3A11] (ab18102) is a mouse monoclonal antibody detecting Nestin in **Western Blot, Flow Cytometry, IHC-P, ICC/IF**. Suitable for **Human**.

- KO validated for confirmed specificity
- Over 20 publications
- Trusted since 2005

KO Validated

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	Preservative: 0.1% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Fragment Protein within Human NES aa 1450 to C-terminus. The exact immunogen used to generate this antibody is proprietary information. Database link P48681
Clone number	2C1.3A11
Purification technique	Affinity purification Protein G
Concentration	1.52 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1/200
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Not recommended

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

WB

Tested

Species	Human
Dilution info	1/1000 - 1/5000
Notes	-

Not recommended

Species	Rat
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100 - 1/500
Notes	-

Not recommended

Species	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. Required for survival, renewal and mitogen-stimulated proliferation of neural progenitor cells (By similarity).

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 is this antibody validated in?
Anti-Nestin antibody [2C1.3A11] (ab18102) 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 Nestin?
Anti-Nestin [2C1.3A11] (ab18102) specifically detects a band for Nestin (UniProt: P48681) at a molecular weight of 177kDa.

Trusted by the scientific community
Anti-Nestin [2C1.3A11] (ab18102) was first used in a scientific publication in 2005 and has been cited over 20 times in peer-reviewed journals.

Specificity confirmed
The specificity of Anti-Nestin antibody [2C1.3A11] (ab18102) has been confirmed by Western blot testing in NES Knockout HAP1 cells.

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

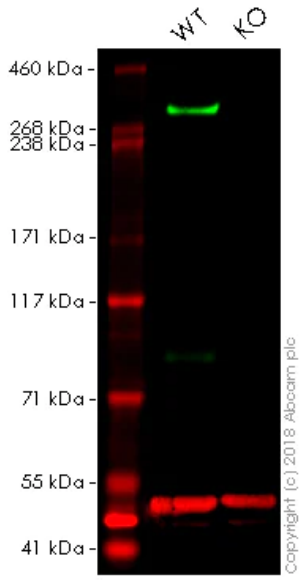
We do not recommend this combination. It is not covered by our product promise.

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.

7 product images



Western blot - Anti-Nestin antibody [2C1.3A11] - Neural Stem Cell Marker (ab18102)

Nestin Western blot staining using mouse Anti-Nestin antibody

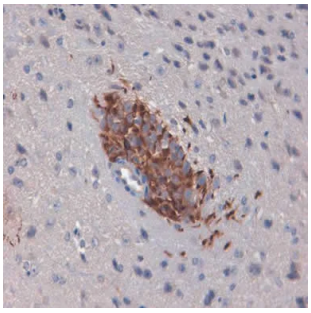
Lanes 1 - 2: Merged signal (red and green). Green - ab18102 observed at 300 kDa. Red - loading control, ab176560, observed at 50 kDa.
ab18102 was shown to recognize NES in wild-type HAP1 cells as signal was lost at the expected MW in NES knockout cells. Additional cross-reactive bands were observed in the wild-type and knockout cells. Wild-type and NES knockout samples were subjected to SDS-PAGE. ab18102 and ab176560 (Rabbit anti-alpha Tubulin loading control) were incubated overnight at 4°C at 1/5000 dilution and 1/20000 dilution respectively. Blots were developed with Goat anti-Mouse IgG H&L (IRDye® 800CW) preabsorbed ab216772 and Goat anti-Rabbit IgG H&L (IRDye® 680RD) preabsorbed ab216777 secondary antibodies at 1/20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-Nestin antibody [2C1.3A11] - Neural Stem Cell Marker (ab18102) at 1/5000 dilution

Lane 1:
Wild-type HAP1 whole cell lysate at 20 µg

Lane 2:
NES knockout HAP1 whole cell lysate at 20 µg

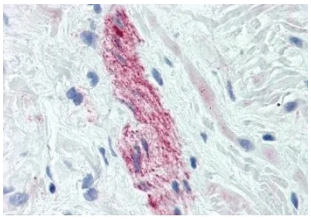
Predicted band size: 177 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Nestin antibody [2C1.3A11] - Neural Stem Cell Marker (ab18102)

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

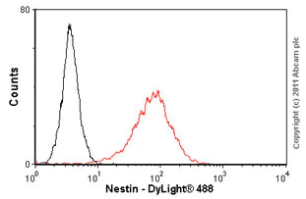
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of migrating tumor cells labelling Nestin with ab18102 at 2µg/ml. Cytoplasm and membrane positive staining shown.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Nestin antibody [2C1.3A11] - Neural Stem Cell Marker (ab18102)

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

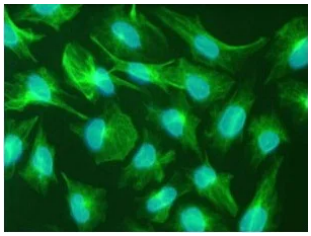
Immunohistochemistry of Anti-Nestin on formalin fixed paraffin embedded prostate nerve tissue using ab18102



Flow Cytometry - Anti-Nestin antibody [2C1.3A11] - Neural Stem Cell Marker (ab18102)

Nestin Flow Cytometry staining using mouse Anti-Nestin antibody

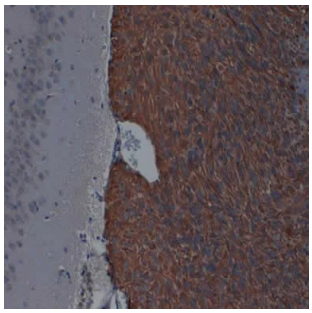
Overlay histogram showing SH-SY5Y cells stained with ab18102 (red line). The cells were fixed with 4% paraformaldehyde (10 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab18102, 1/200 dilution) 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.



Immunocytochemistry/ Immunofluorescence - Anti-Nestin antibody [2C1.3A11] - Neural Stem Cell Marker (ab18102)

Nestin Immunocytochemistry/ Immunofluorescence staining using mouse Anti-Nestin antibody

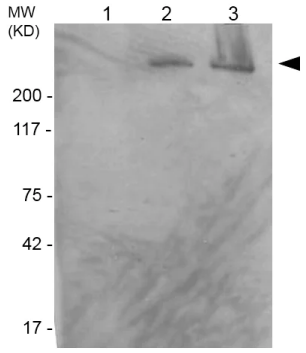
Immunofluorescence staining of U251 cells (glioblastoma cell line) stained using ab18102(green) and bisbenzimide (blue)



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Nestin antibody [2C1.3A11] - Neural Stem Cell Marker (ab18102)

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

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of xenograft tumor cells labelling Nestin with ab18102.



Western blot - Anti-Nestin antibody [2C1.3A11] - Neural Stem Cell Marker (ab18102)

Nestin Western blot staining using mouse Anti-Nestin antibody

All lanes:
Western blot - Anti-Nestin antibody [2C1.3A11] - Neural Stem Cell Marker (ab18102) at 1/1000 dilution

Lane 1:
Total rat brain protein at 5 µg

Lane 2:
Human CNS progenitor cell protein at 1 µg

Lane 3:
Human CNS progenitor cell protein at 5 µg

Predicted band size: 177 kDa

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