

## Product datasheet

# Anti-Nestin antibody [Rat-401] - Neural Stem Cell Marker ab6142

★★★★☆ 25 Abreviews 141 References 4 Images

### Overview

<b>Product name</b>	Anti-Nestin antibody [Rat-401] - Neural Stem Cell Marker
<b>Description</b>	Mouse monoclonal [Rat-401] to Nestin - Neural Stem Cell Marker
<b>Host species</b>	Mouse
<b>Tested applications</b>	<b>Suitable for:</b> IHC-P, WB
<b>Species reactivity</b>	<b>Reacts with:</b> Rat <b>Predicted to work with:</b> Mouse  <b>Does not react with:</b> Sheep, Cat, Human, Monkey
<b>Immunogen</b>	Tissue, cells or virus corresponding to Rat Nestin. Homogenized spinal cord tissue from embryonic day 15 (E15) rats.
<b>Positive control</b>	WB: Mouse brain and rat brain whole tissue lysates. IHC-P: Rat Brain 6 weeks (cerebellum sagittal, coronal rest) tissue sections.
<b>General notes</b>	<p>This antibody clone is manufactured by Abcam. If you require a different buffer formulation or a particular conjugate for your experiments, please contact <a href="mailto:orders@abcam.com">orders@abcam.com</a>.</p> <p>Reproducibility is key to advancing scientific discovery and accelerating scientists' next breakthrough.</p> <p>Abcam is leading the way with our range of recombinant antibodies, knockout-validated antibodies and knockout cell lines, all of which support improved reproducibility.</p> <p>We are also planning to innovate the way in which we present recommended applications and species on our product datasheets, so that only applications &amp; species that have been tested in our own labs, our suppliers or by selected trusted collaborators are covered by our Abpromise™ guarantee.</p> <p>In preparation for this, we have started to update the applications &amp; species that this product is Abpromise guaranteed for.</p> <p>We are also updating the applications &amp; species that this product has been "predicted to work with," however this information is not covered by our Abpromise guarantee.</p> <p>Applications &amp; species from publications and Abreviews that have not been tested in our own labs or in those of our suppliers are not covered by the Abpromise guarantee.</p> <p>Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, as well as customer reviews and Q&amp;As.</p>

## Properties

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<b>Form</b>	Liquid
<b>Storage instructions</b>	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
<b>Storage buffer</b>	Preservative: 0.02% Sodium azide Constituents: PBS, 6.97% L-Arginine
<b>Purity</b>	Protein G purified
<b>Clonality</b>	Monoclonal
<b>Clone number</b>	Rat-401
<b>Isotype</b>	IgG1

## Applications

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Our [Abpromise guarantee](#) covers the use of **ab6142** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
IHC-P	★★★★★	Use a concentration of 0.05 - 1 µg/ml. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol. Tissue fixed with 4% paraformaldehyde at pH 7.4 for light microscopy.
WB	★★★★☆	Use a concentration of 1 µg/ml. Predicted molecular weight: 200 kDa. Block with milk or BSA but do not dilute primary antibody in buffer containing milk.

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## Target

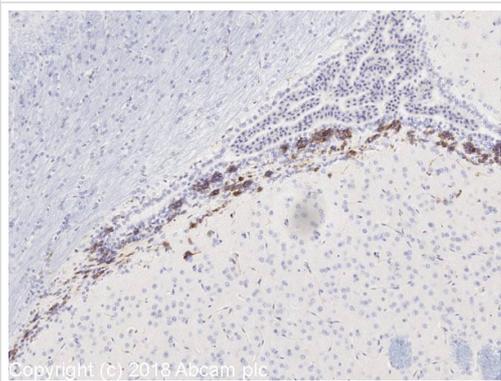
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<b>Function</b>	Required for brain and eye development. Promotes the disassembly of phosphorylated vimentin intermediate filaments (IF) during mitosis and may play a role in the trafficking and distribution of IF proteins and other cellular factors to daughter cells during progenitor cell division. Required for survival, renewal and mitogen-stimulated proliferation of neural progenitor cells.
<b>Tissue specificity</b>	CNS stem cells.
<b>Sequence similarities</b>	Belongs to the intermediate filament family.
<b>Developmental stage</b>	Upon terminal neural differentiation, nestin is down-regulated and replaced by neurofilaments.
<b>Post-translational modifications</b>	Constitutively phosphorylated. This increases during mitosis when the cytoplasmic intermediate filament network is reorganized.

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## Images

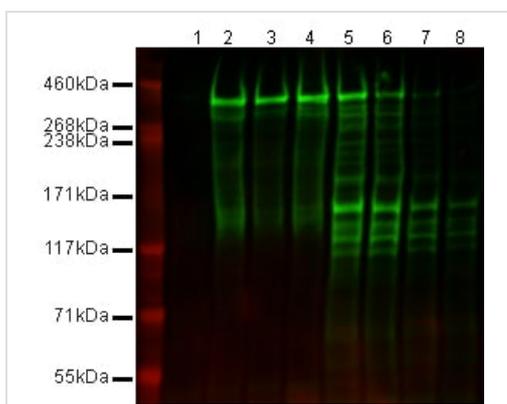
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Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Nestin antibody [Rat-401] - Neural Stem Cell Marker (ab6142)

IHC image of Nestin staining in a section of formalin-fixed paraffin-embedded normal rat brain performed on a Leica BOND™ system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20mins. The section was then incubated with ab6142, 0.05ug/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with hematoxylin and mounted with DPX.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.



Western blot - Anti-Nestin antibody [Rat-401] - Neural Stem Cell Marker (ab6142)

**All lanes :** Anti-Nestin antibody [Rat-401] - Neural Stem Cell Marker (ab6142) at 1 µg/ml

- Lane 1 :** Mouse E12 brain tissue lysate
- Lane 2 :** Mouse E14 brain tissue lysate
- Lane 3 :** Mouse E16 brain tissue lysate
- Lane 4 :** Mouse E18 brain tissue lysate
- Lane 5 :** Rat E12 brain tissue lysate
- Lane 6 :** Rat E14 brain tissue lysate
- Lane 7 :** Rat E16 brain tissue lysate
- Lane 8 :** Rat E18 brain tissue lysate

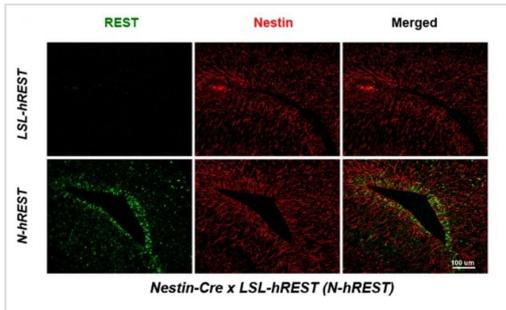
Lysates/proteins at 20 µg per lane.

Performed under reducing conditions.

**Predicted band size:** 200 kDa

This blot was produced using a 3-8% Tris-Acetate gel under the Tris-Acetate buffer system. The gel was run at 150V for 60 minutes before being transferred onto a Nitrocellulose membrane at 30V for 70 minutes. The membrane was then blocked for an hour using 3% milk before being incubated with ab6142 overnight at 4°C. Antibody binding was detected using Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) at 1/20000 dilution for 1 hour at

room temperature before imaging.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Nestin antibody [Rat-401]  
- Neural Stem Cell Marker (ab6142)

Image from Lu L. et al., Sci Rep. 2018 Aug 14;8(1):12083. Fig2b. doi: 10.1038/s41598-018-29441-3. Reproduced under the Creative Commons license <http://creativecommons.org/licenses/by/4.0/>.

REST expression in *N-hREST* mouse brains correlates with stemness in embryonic neural stem cells. Immunofluorescence analysis of E18.5 *N-hREST* and *LSL-hREST* control littermate mouse brains with antibodies against REST (using an antibody that preferentially recognizes hREST over mouse REST) and Nestin (using ab6142)

Mice were anesthetized and perfused with phosphate-buffered saline followed by 4% paraformaldehyde (PFA). Brain tissues were then dissected and fixed in 4% PFA overnight at 4 °C. Fixed brain tissues were processed for paraffin embedding and then cut into 5- $\mu$ m sections.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Nestin antibody [Rat-401]  
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This image is courtesy of an anonymous abreview.

ab6142 staining adult mouse brain tissue section by Immunohistochemistry (Formalin/PFA-fixed, paraffin embedded sections). Tissue underwent fixation in paraformaldehyde, heat mediated antigen retrieval in Sodium Citrate, permeabilization in 1% Triton buffer and blocking in 10% serum for 1 hour at 25°C. The primary antibody, diluted 1/200 (PBS, 2% Donkey serum, 0.2% Triton) for 16 hours at 4°C. An Alexa Fluor® 488 conjugated donkey polyclonal to mouse Ig, diluted 1/500 was used as the secondary.

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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