

Nestin Monoclonal Antibody (Rat-401 (4D4))

Catalog NumberMA1-81819

Product data sheet

Details		Species Reactivity	
Size	100 µg	Species reactivity	Mouse, Rat
Host/Isotope	Mouse / IgG1	Published species	Mouse
Class	Monoclonal	Tested Applications	
Type	Antibody	Immunohistochemistry (Frozen) (IHC (F))	1:20-1:200
Clone	Rat-401 (4D4)	Immunohistochemistry (Paraffin) (IHC (P))	1:20-1:200
Immunogen	Nestin purified from embryonic rat spinal cord.	Western Blot (WB)	Assay-dependent
Conjugate	Unconjugated	Immunocytochemistry (ICC/IF)	1:200
Form	Liquid	Published Applications	
Concentration	1 mg/mL	Immunocytochemistry (ICC/IF)	See 1 publications below
Purification	Protein A	* Suggested working dilutions are given as a guide only. It is recommended that the user titrate the product for use in their own experiment using appropriate negative and positive controls.	
Storage buffer	TBS		
Contains	0.05% sodium azide		
Storage Conditions	Store at 4°C short term. For long term storage, store at -20°C, avoiding freeze/thaw cycles.		

Product specific information

This antibody does not react with human. In Western blot, this antibody detects a ~200-220 kDa band in newborn rat or mouse cell extracts. For immunohistochemistry, we recommend perfusing tissues with 4% paraformaldehyde (pH 7.4) for light microscopy and with either 4% paraformaldehyde (pH 10.0) or 4% paraformaldehyde with 0.1% glutaraldehyde (pH 7.4) for EM. For Immunocytochemistry we recommend using cells fixed in 4% paraformaldehyde buffered with 50mM sodium borate (pH 9.5). For Western blot, it is recommended that samples should be boiled in 4 volumes of 125 mM Tris, pH 6.8, 10% 2-mercaptoethanol, 10% glycerol and 4.6% SDS. Membranes should be blocked with milk or BSA. 5% PAGE gels are suggested. Mouse anti Rat Nestin antibody, clone Rat-401 recognizes rat nestin, a large intermediate filament protein transiently expressed in embryonic glial cells (Hockfield and McKay 1985).

Background/Target Information

Nestin is a Class VI intermediate filament abundantly produced in the developing central nervous system (CNS) and in early embryonic neuroepithelial stem cells. Nestin has been widely used as a predominant marker for stem/progenitor cells, glioma cells, and tumor endothelial cells. Also, Nestin is a superior angiogenic marker to evaluate neovascularity of endothelial cells in tumors. Highly specific antibodies to human Nestin can aid in characterizing progenitor cells differentiating into distinct lineages, in enhancing the therapeutic potential of human neural stem/progenitor cells in the treatment of CNS diseases or injury, and in identifying neuroepithelial tumor cells. Nestin expression has been observed in pancreatic hematopoietic stem cell populations, and is considered a novel angiogenesis marker of proliferating endothelial cells in colorectal cancer tissue.

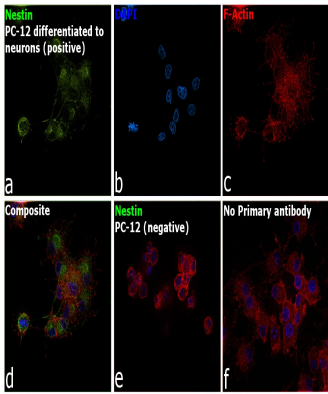
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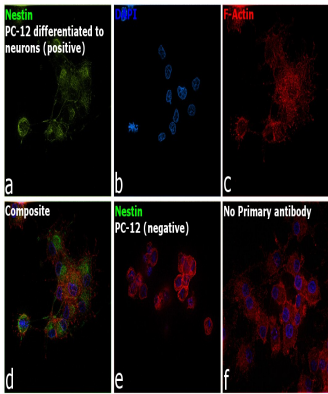
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Product Images For Nestin Monoclonal Antibody (Rat-401 (4D4))



Nestin Antibody (MA1-81819)

Antibody specificity was demonstrated by detection of differential basal expression of the target across cell models owing to their inherent genetic constitution. Immunofluorescence analysis using Anti-Nestin Monoclonal Antibody (Rat-401 (4D4)) (Product # MA1-81819), shows expression of Nestin in PC-12 differentiated to neurons as compared to PC-12 cells. {RE}



Nestin Antibody (MA1-81819) in ICC/IF

Immunofluorescence analysis of Nestin was performed using 70% confluent log phase PC-12 cells differentiated to neurons. The cells were fixed with 4% paraformaldehyde for 10 minutes, permeabilized with 0.1% Triton™ X-100 for 15 minutes, and blocked with 2% BSA for 45 minutes at room temperature. The cells were labeled with Nestin Monoclonal Antibody (Rat-401 (4D4)) (Product # MA1-81819) at 1:200 dilution in 0.1% BSA, incubated at 4 degree celsius overnight and then labeled with Donkey anti-Mouse IgG (H+L) Highly Cross-Adsorbed Secondary Antibody, Alexa Fluor Plus 488 (Product # A32766, 1:2000 dilution), for 45 minutes at room temperature (Panel a: Green). Nuclei (Panel b: Blue) were stained with ProLong™ Diamond Antifade Mountant with DAPI (Product # P36962). F-actin (Panel c: Red) was stained with Rhodamine Phalloidin (Product # R415, 1:300 dilution). Panel d represents the merged image showing cytoplasmic localization. Panel e represents PC-12 cells having no expression of Nestin. Panel f represents control cells with no primary antibody to assess background. The images were captured at 60X magnification.

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PubMed References For Nestin Monoclonal Antibody (Rat-401 (4D4))

1 Immunocytochemistry References

Species / Dilution	Summary
Mouse / Not Cited	<p>MA1-81819 was used in Immunocytochemistry-immunofluorescence to report the use of sacrificial crystals (potassium dihydrogen phosphate or urea) that act as templates to impart pores to hyaluronic acid-based hydrogels.</p> <p>ACS biomaterials science &amp; engineering ( 2017; 3: 1451) <b>"Sacrificial Crystal Templated Hyaluronic Acid Hydrogels As Biomimetic 3D Tissue Scaffolds for Nerve Tissue Regeneration."</b> Author(s):Thomas RC,Vu P,Modi SP,Chung PE,Landis RC,Khaing ZZ,Hardy JG,Schmidt CE PubMed Article URL:<a href="http://dx.doi.org/10.1021/acsbiomaterials.7b00002">http://dx.doi.org/10.1021/acsbiomaterials.7b00002</a></p>

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