

PRODUCT INFORMATION



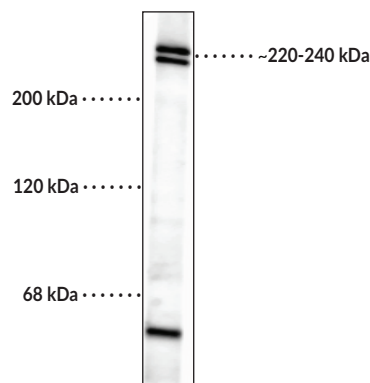
Nestin Monoclonal Antibody (Clone 4D11)

Item No. 29286

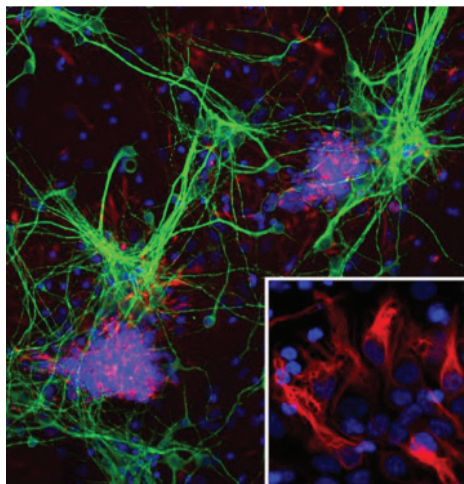
Overview and Properties

Contents:	This vial contains 100 µl of protein G-purified culture supernatant.
Immunogen:	Recombinant partial segment of human nestin expressed in <i>E. coli</i>
Species Reactivity:	(+) Human, mouse, rat
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS, pH 7.2, with 50% glycerol and 5 mM sodium azide
Clone:	4D11
Host:	Mouse
Isotype:	IgG1
Applications:	Immunocytochemistry (ICC), Immunohistochemistry (IHC), and Western blot (WB); the recommended starting dilution for ICC and IHC is 1:500 and 1:2,000 for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



WB of neonatal rat brain lysate showing specific immunolabeling of the ~220-240 kDa nestin doublet.



Immunofluorescent labeling of cultured E20 rat cortical neurons showing glia labeled with Nestin Monoclonal Antibody (Clone 4D11) (red), anβ-MAP2 antibody (green), and Hoechst staining of nuclear DNA (blue).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
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Description

Nestin, also known as neuroepithelial stem cell protein, is a type VI intermediate filament protein.¹ Nestin monomers are comprised of a short N-terminal head domain that is required for assembly of intermediate filaments, an α -helical rod domain that mediates dimerization, and a long C-terminal tail.¹ They form heterodimers and heterotetramers with other intermediate filament proteins, including vimentin and α -internexin, for assembly into intermediate filaments.^{1,2} Nestin is found in a variety of tissue types but is expressed primarily in nervous tissue during embryonic development in mammals and has been used as a marker of neural stem/progenitor cells (NSPCs).^{2,3} Nestin synthesis decreases as nervous tissues differentiate, however, nestin-positive neural stem cells are found in the subventricular zone (SVZ) and hippocampal dentate gyrus in the adult mammalian brain. Nestin is also expressed in a variety of tumor types and cancer stem cells, as well as in cerebellar Purkinje cells from patients with Creutzfeldt-Jakob disease (CJD).^{3,4} Cayman's Nestin Monoclonal Antibody (Clone 4D11) can be used for immunocytochemistry (ICC), immunohistochemistry (IHC), and Western blot (WB) applications. The antibody recognizes a nestin doublet at approximately 220 to 240 kDa from human, mouse, and rat samples.

References

1. Bernal, A. and Arranz, L. Nestin-expressing progenitor cells: Function, identity and therapeutic implications. *Cell. Mol. Life Sci.* **75(12)**, 2177-2195 (2018).
2. Gilyarov, A.V. Nestin in central nervous system cells. *Neurosci. Behav. Physiol.* **38(2)**, 165-169 (2008).
3. Krupkova, O., Jr., Loja, T., Zambo, I., *et al.* Nestin expression in human tumors and tumor cell lines. *Neoplasma* **57(4)**, 291-298 (2010).
4. Mizuno, Y., Takeuchi, T., Takatama, M., *et al.* Expression of nestin in Purkinje cells in patients with Creutzfeldt-Jakob disease. *Neurosci. Lett.* **352(2)**, 109-112 (2003).

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