

DESCRIPTION

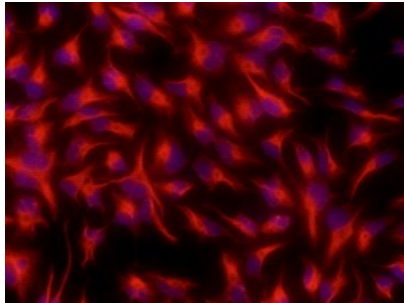
Species Reactivity	Mouse/Rat
Specificity	Detects mouse and rat Nestin in Western blots.
Source	Monoclonal Mouse IgG _{2A} Clone # 307501
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant rat Nestin Met544-Glu820 (Gly756Asp, Ile758Met, Arg572Lys, Ala574Pro, Ile802Met, Arg816Lys) Accession # EDM00749
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.

	Recommended Concentration	Sample
Western Blot	1 µg/mL	Recombinant Rat Nestin
Immunocytochemistry	8-25 µg/mL	See Below

DATA

Immunocytochemistry	
	<p>Nestin in Rat Cortical Stem Cells. Nestin was detected in immersion fixed undifferentiated rat cortical stem cells using Mouse Anti-Rat Nestin Monoclonal Antibody (Catalog # MAB2736) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). View our protocol for Fluorescent ICC Staining of Cells on Coverslips.</p>

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Nestin is a class VI intermediate filament protein (1,2) that is expressed in stem cells of the central nervous system (CNS) (3) but not in mature CNS cells.(4) Nestin expression is used extensively as a marker for CNS stem cells in the developing nervous system and *in vitro* cultured cells (5-10). Its transient expression is a critical step in the neural differentiation pathway.(2) Nestin is also expressed in non-neural stem cell populations, such as pancreatic islet progenitors (11-13) and hematopoietic progenitors (14).

References:

1. Hockfield, S. and R.D. McKay (1985) *J. Neurosci.* **5**:3310.
2. Lendahl, U. *et al.* (1990) *Cell* **60**:585.
3. Frederiksen, K. and R.D. McKay (1988) *J. Neurosci.* **8**:1144.
4. Tohyama, T. *et al.* (1992) *Lab. Invest.* **66**:303.
5. Uchida, N. *et al.* (2000) *Proc. Natl. Acad. Sci. USA* **97**:14720.
6. Frederiksen, K. *et al.* (1988) *Neuron* **1**:439.
7. Cattaneo, E. *et al.* (1990) *Nature* **347**:762.
8. Reynolds, B.A. and S. Weiss (1992) *Science* **255**:1707.
9. Rietze, R.L. *et al.* (2001) *Nature* **412**:736.
10. Carpenter, M.K. *et al.* (2001) *Exp. Neurol.* **172**:383.
11. Zulewski, H. *et al.* (2001) *Diabetes* **50**:521.
12. Lumelsky, N. *et al.* (2001) *Science* **292**:1389.
13. Lechner, A. *et al.* (2001) *Biochem. Biophys. Res. Commun.* **293**:670.
14. Shih, C.C. *et al.* (2001) *Blood* **98**:2412.