



anti-Nestin antibody, rabbit serum (ST1)

73-105 100 ul

Nestin is a class VI intermediate filament protein that is abundantly expressed in stem cells and progenitor cells in the mammalian central nervous system (CNS) during development. Upon differentiation, **nestin** becomes down-regulated and is replaced by other intermediate filament proteins. **Nestin** expression is widely used as a marker for CNS stem cells in the developing nervous system. Its transient expression is a critical step in the neural differentiation pathway. Down-regulated **nestin** may be re-expressed in the adult organism under certain pathological conditions such as brain injury, ischemia, inflammation, and neoplastic transformation.

An antibody (named ST1) against mouse nestin was raised in rabbit.

Applications:

- 1. Western blotting (dilution: 1/3,000-1/1,000)
- 2. Immunocytochemistry (dilution: 1/500-1/1,000)
- 3. Immunohistochemistry (dilution: 1/500-1/1,000)

Not tested for other applications

Immunogen: Synthetic peptide corresponding to the C-terminal 15 aa of mouse nestin.
Specificity: Reacts with mouse and rat Nestin, but not with human Nestin.
Form: Antiserum added with 0.05% sodium azide
Storage: Shipped at 4 . Upon delivery, aliquot and store at-20 .
Data Link: Swiss-Prot <u>Q6P5H2</u> (mouse), <u>P21263</u> (rat)

References: This antibody was produced and used in ref.2 and 3.

- Lendahl U et al (1990) "CNS stem cells express a new class of intermediate filament protein." Cell 60: 585-598 PMID: <u>1689217</u>
- Sato Y et al (1998) "Requirement for early-generated neurons recognized by monoclonal antibody Lot1 in the formation of lateral olfactory tract." J Neurosci 18:7800-7810 PMID: <u>9742149</u>
- Nakashima K *et al* (2001) "BMP2-mediated alteration in the developmental pathway of fetal mouse brain cells from neurogenesis to astrocytogenesis." *Proc Natl Acad Sci USA* 98: 5868-5873 PMID: <u>11331769</u>

Related product: 73-100 anti-Nestin antibody, rat monoclonal (7A3)

To be continued



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Fig.1 Immunocytochemistry using this antibody, ST1 (ref.3).BMP2 (bone morphogenetic protein 2)-induced neurogliogenic fate conversion of neural precursors.

Nestin expression (red) in neuroepithelial cells cultured with (B) or without (A) BMP2 (80 ng/ml) for 2 days was examined.

S100- β expression (green) was examined in neuroepithelial cells cultured with (D) or without (C) BMP2 (80 ng/ml) for 2 days.

Hoechst staining of the same fields (Insets, blue).

BMP2 dramatically decreased the number of nestin (a marker for undifferentiated neural precursor cells)-positive cells (B) compared with that in untreated cultures (A). The number of cells expressing S100- β (an astrocytic cell marker) was increased after 2 days of BMP2 stimulation (C and D). Thus BMP2 appears to change the fate of neural precursors from neuronal to astrocytic cells.



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