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Inspiration for Life Science

POLYCLONAL ANTIBODY

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Catalog No. 73-105EX

Anti-Nestin antibody(ST1)

BACKGROUND

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.

Product type	Primary antibodies
Host	Rabbit
Source	Serum
Form	Antiserum added with 0.05% sodium azide
Volume	100µL
Concentration	
Immunogen	Synthetic peptide corresponding to the C-terminal 15 aa of mouse nestin

Application notes

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)

Other applications have not been tested.
Optimal dilutions/concentrations should be determined by the end user.

Data Link Swiss-Prot **Q6P5H2** (mouse), **P21263** (rat)

Reactivity Reacts with mouse and rat nestin, but not with human nestin

Storage -20℃

References

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

1. Lendahl U *et al* (1990) "CNS stem cells express a new class of intermediate filament protein." *Cell* **60**: 585-598 PMID: 1689217
2. 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: 9742149
3. 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: 11331769

Related Product #73-100EX
anti-Nestin antibody, rat monoclonal (7A3)

Anti-Nestin antibody, rabbit serum (ST1)

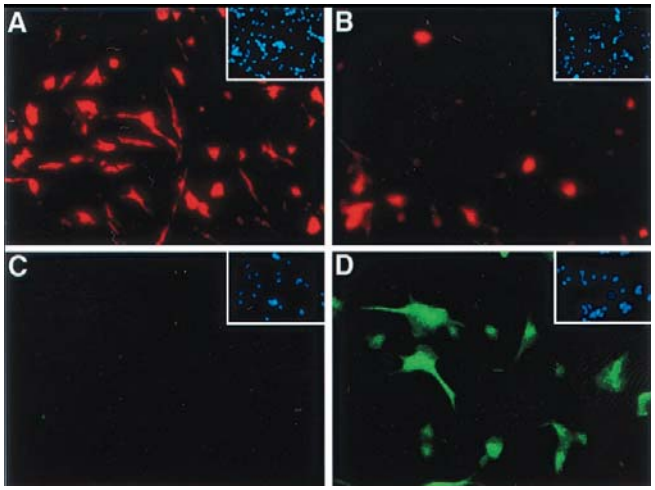

Fig.1 Immunocytochemistry using this antibody, ST1 (ref.3).

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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