

Anti-Nestin antibody, rabbit serum (ST1)

73-105 100ul

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 blot (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.

Specification

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 with 0.05% sodium azide

Storage: Shipped at 4°C. Upon delivery, aliquot and store at -20°C.

Data Link: Swiss-Prot [Q6P5H2](#) (mouse), [P21263](#) (rat)

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](#)

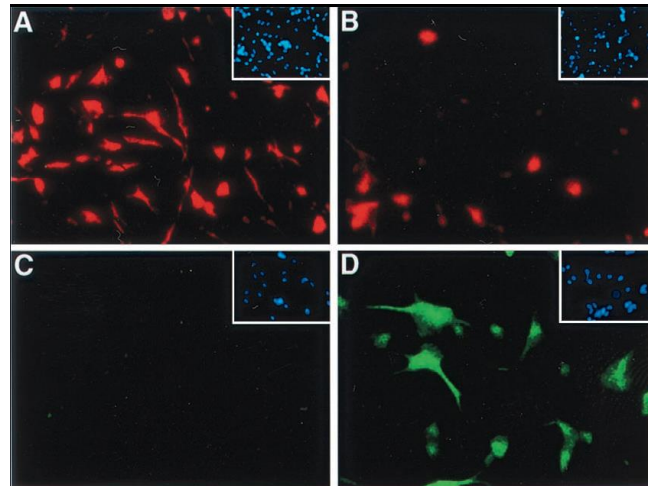


Fig.1 Immunocytochemistry using antibody ST1 (ref. 3).

BMP2 (bone morphogenetic protein 2)-induced neuroglial 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.