Anti-Nestin antibody, rabbit polyclonal (ST1)

Product code	73-105
Size	100 µg
Storage	-20℃
Concentration	2.0 mg/ml
Buffer	PBS- with 50% glycerol
Purity	Purified IgG fraction with protein A from rabbit antiserum.
Immunogen	Synthetic peptide corresponding to the C-terminal 15 aa of mouse nestin.
Isotype	Rabbit IgG
Reactivity	Mouse and rat Nestin, but not with human Nestin.
Special notes	N/A
Application	1. Western blotting (dilution: 1/500-1/5,000) 2. Immunocytochemistry (dilution: 1/300-1/1,000) 3. Immunohistochemistry (dilution: 1/500-1/1,000)
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. This antibody (named ST1) against mouse nestin was raised by Prof. K. Yoshikawa of Osaka University.
Data Link	UniProtKB Q6P5H2 **(mouse)**, P21263 **(rat)**

Please note: All products are FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES. NOT FOR MILITARY USE.

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Data Images: 73-105 Anti-Nestin antibody, rabbit polyclonal (ST1)

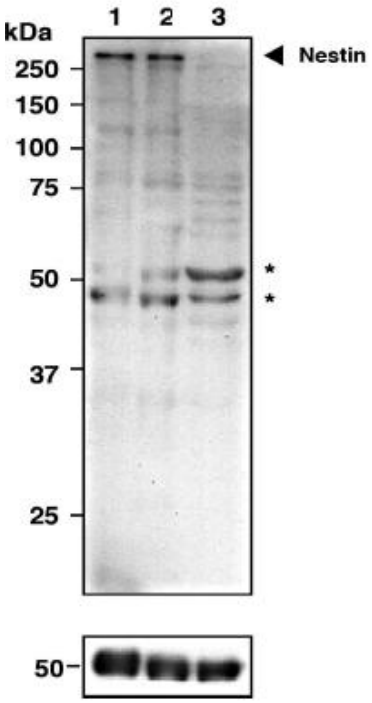

Fig.1 Detection of Nestin in whole extracts of mouse neocortex and neural stem cells by western blotting with anti-Nestin antibody.

Lane 1; Mouse neucortex at E14.5

Lane 2; Neural stem cells in culture prepared from E14.5 mouse neocortex.

Lane 3; Neurons in culture differentiated from neural stem cells.

Nestin is detected only in undifferentiated neural stem cells

Anti-Nestin antibody (ST1) was used at 1/500 dilution. As 2nd antibody, HRP-conjugated polyclonal anti-rabbit IgG antibody was used at 1/20,000. As a loading control, western blot of γ-tubulin was employd.(***** Stars indicate non-specific bands.)

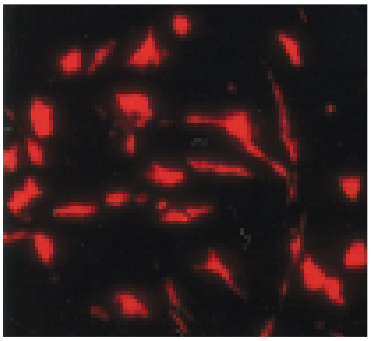

Fig.2 Immunofluorescence staining of nestin in mouse neuroepithelial cells by using anti-nestin antibody.

Cells in culture were fixed with paraformaldehyde and reacted with anti-nestin antibody at 1/300 dilution and then with rhodamaine-conjugated donky anti-rabbit antibody as a second antibody.

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References: This antibody was produced and used in ref.1 and used 1~4.

1. 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 **IHC**
2. 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 **IF**
3. Shimozaki K. *et al* (2003) Involvement of Oct3/4 in the enhancement of neuronal differentiation of ES cells in neurogenesis-inducing cultures. *Development* **130**, 2505-2512. **PMID**: 12702663 **IF**
4. Aizawa T. et al. (2011). Neural stem cell-like gene expression in a mouse ependymoma cell line transformed by human BK polyomavirus. Cancer Sci. **102**:122-9. **PMID**: 21073635 **IF, IHC**

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