

nestin (5C93): sc-71665



The Power to Question

BACKGROUND

Nestin is a major intermediate filament (IF) protein of embryonic central nervous system progenitor cells. It is also a component of the dynamic IF network during muscle development, where it polymerizes with Desmin and Vimentin. Nestin co-assembles with Vimentin or α -internexin and forms heterodimer coiled-coil molecules which then further assemble into 10 nm IFs. Deletion of the IF consensus rod domain in nestin alters nestin localization in CNS precursor cells and radial glial cells *in vivo*. Nestin is a marker for neuroepithelial stem cells, glioma cells and tumor endothelial cells during rapid growth. During axon elongation of differentiation neurons, nestin localizes to the growth cones and may play a role in growth cone guidance. In the rat adrenal gland, nestin is expressed by the zona fasciculata and the zona reticularis. Nestin is also expressed by dermatomal cells and by myoblasts during the earliest stages of myogenesis.

CHROMOSOMAL LOCATION

Genetic locus: NES (human) mapping to 1q23.1; Nes (mouse) mapping to 3 F1.

SOURCE

nestin (5C93) is a mouse monoclonal antibody raised against a 150 amino acid epitope mapping near the C-terminus of human nestin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

nestin (5C93) is recommended for detection of nestin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for nestin siRNA (h): sc-36032, nestin siRNA (m): sc-36033, nestin siRNA (r): sc-156055, nestin shRNA Plasmid (h): sc-36032-SH, nestin shRNA Plasmid (m): sc-36033-SH, nestin shRNA Plasmid (r): sc-156055-SH, nestin shRNA (h) Lentiviral Particles: sc-36032-V, nestin shRNA (m) Lentiviral Particles: sc-36033-V and nestin shRNA (r) Lentiviral Particles: sc-156055-V.

Molecular Weight of nestin: 190-200 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409, SH-SY5Y cell lysate: sc-3812 or SJRH30 cell lysate: sc-2287.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

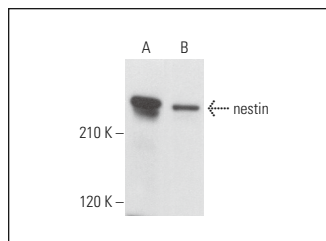
PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

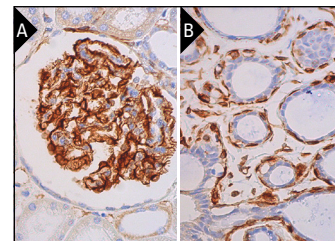
RESEARCH USE

For research use only, not for use in diagnostic procedures.

DATA



nestin (5C93): sc-71665. Western blot analysis of nestin expression in IMR-32 (A) and SJRH30 (B) whole cell lysates.



nestin (5C93): sc-71665. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic and membrane staining of cells in glomeruli (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast tissue showing cytoplasmic and membrane staining of myoepithelial cells (B).

SELECT PRODUCT CITATIONS

- Breher, F.M., et al. 2010. Infiltrating growing pattern xenografts induced by glioblastoma and anaplastic astrocytoma derived tumor stem cells. *Chirurgia* 105: 685-694.
- Zarnescu, O., et al. 2011. Co-localization of PCNA, VCAM-1 and caspase-3 with nestin in xenografts derived from human anaplastic astrocytoma and glioblastoma multiforme tumor spheres. *Micron* 42: 793-800.
- Esfandiari, F., et al. 2012. Glycogen synthase kinase-3 inhibition promotes proliferation and neuronal differentiation of human-induced pluripotent stem cell-derived neural progenitors. *Stem Cells Dev.* 21: 3233-3243.
- Yong, R.L., et al. 2014. Cell transcriptional state alters genomic patterns of DNA double-strand break repair in human astrocytes. *Nat. Commun.* 5: 5799.
- Thomas, S.M., et al. 2015. Reprogramming LCLs to iPSCs results in recovery of donor-specific gene expression signature. *PLoS Genet.* 11: e1005216.
- Rosiak, K., et al. 2016. IDH1^{R132H} in neural stem cells: differentiation impaired by increased apoptosis. *PLoS ONE* 11: e0154726.
- Liu, Y., et al. 2017. The cellular character of liquefaction degeneration in oral lichen planus and the role of interferon γ . *J. Oral Pathol. Med.* 46: 1015-1022.
- Cilloni, D., et al. 2020. Transplantation induces profound changes in the transcriptional asset of hematopoietic stem cells: identification of specific signatures using machine learning techniques. *J. Clin. Med.* 9: 1670.



See **nestin (10c2): sc-23927** for nestin antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.