

nestin (G-20): sc-21248

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 (G-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of nestin of mouse origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-21248 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

nestin (G-20) 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

nestin (G-20) is also recommended for detection of nestin in additional species, including canine, bovine and porcine.

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

Molecular Weight of nestin: 190-200 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, L8 cell lysate: sc-3807 or mouse embryo extract: sc-364239.

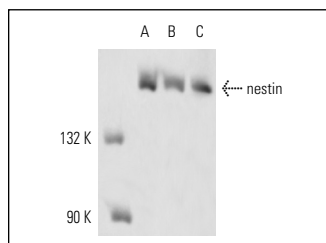
STORAGE

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

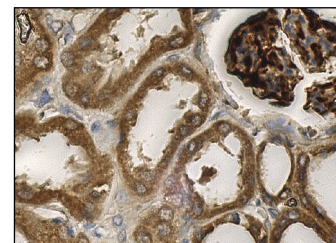
RESEARCH USE

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

DATA



nestin (G-20): sc-21248. Western blot analysis of nestin expression in HeLa (A) and L8 (B) whole cell lysates and mouse embryo tissue extract (C).



nestin (G-20): sc-21248. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing strong cytoplasmic staining of glomerular cells and moderate cytoplasmic staining of cells in tubules.

SELECT PRODUCT CITATIONS

- Schwartz, P.H., et al. 2005. Expression of neurodevelopmental markers by cultured porcine neural precursor cells. *Stem Cells* 23: 1286-1294.
- Ueda, S., et al. 2006. Cynomolgus monkey embryonic stem cell lines express green fluorescent protein. *J. Biosci. Bioeng.* 102: 14-20.
- Lau, T., et al. 2006. Rapid and efficient differentiation of dopaminergic neurons from mouse embryonic stem cells. *Neuroreport* 17: 975-979.
- Scobioala, S., et al. 2008. Up-regulation of nestin in the infarcted myocardium potentially indicates differentiation of resident cardiac stem cells into various lineages including cardiomyocytes. *FASEB J.* 22: 1021-1031.
- Tay, Y.M., et al. 2008. MicroRNA-134 modulates the differentiation of mouse embryonic stem cells, where it causes post-transcriptional attenuation of Nanog and LRH1. *Stem Cells* 26: 17-29.
- Quintana, L., et al. 2009. Early tissue patterning recreated by mouse embryonic fibroblasts in a three-dimensional environment. *Tissue Eng.* 15: 45-54.
- Teramura, T., et al. 2009. mouse androgenetic embryonic stem cells differentiated to multiple cell lineages in three embryonic germ layers *in vitro*. *Reprod. Dev.* 55: 283-292.
- Kikuchi, M., et al. 2011. Neural crest-derived multipotent cells in the adult mouse iris stroma. *Genes Cells* 16: 273-281.
- Kanakasabai, S., 2012. PPAR γ agonists promote oligodendrocyte differentiation of neural stem cells by modulating stemness and differentiation genes. *PLoS ONE* 7: e50500.

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Try **nestin (10c2): sc-23927** or **nestin (D-9): sc-377380**, our highly recommended monoclonal alternatives to nestin (G-20). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **nestin (10c2): sc-23927**.