

nestin (C-20): sc-21247



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.

REFERENCES

1. Lendahl, U., et al. 1990. CNS stem cells express a new class of intermediate filament protein. *Cell* 60: 585-595.
2. Sejersen, T., et al. 1993. Transient expression of the intermediate filament nestin during skeletal muscle development. *J. Cell Sci.* 106: 1291-1300.

CHROMOSOMAL LOCATION

Genetic locus: NES (human) mapping to 1q23.1.

SOURCE

nestin (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of nestin of human 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-21247 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

nestin (C-20) is recommended for detection of nestin of 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 (C-20) is also recommended for detection of nestin in additional species, including bovine.

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

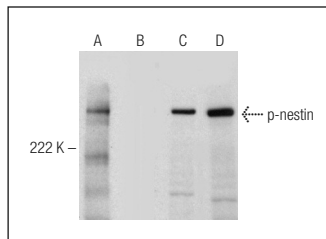
Molecular Weight of nestin: 190-200 kDa.

Positive Controls: SK-N-SH cell lysate: sc-2410, HeLa whole cell lysate: sc-2200 or SH-SY5Y cell lysate: sc-3812.

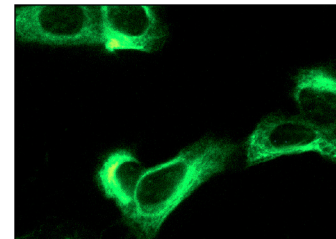
STORAGE

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

DATA



Western blot analysis of nestin phosphorylation in untreated (A, C) and lambda protein phosphatase (sc-200312A) treated (B, D) mouse embryonic brain tissue extract. Antibodies tested include p-nestin (Thr 1495): sc-33880 (A, B) and nestin (C-20): sc-21247 (C, D).



nestin (C-20): sc-21247. Immunofluorescence staining of methanol-fixed SK-N-SH cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Li, H., et al. 2007. Nestin is expressed in the basal/myoepithelial layer of the mammary gland and is a selective marker of basal epithelial breast tumors. *Cancer Res.* 67: 501-510.
2. Lee, S.T., et al. 2008. Establishment of autologous embryonic stem cells derived from preantral follicle culture and oocyte parthenogenesis. *Fertil. Steril.* 90: 1910-1920.
3. Reimer, R., et al. 2009. Nestin modulates glucocorticoid receptor function by cytoplasmic anchoring. *PLoS ONE* 4: e6084.
4. Li, X., et al. 2011. Uniaxial mechanical strain modulates the differentiation of neural crest stem cells into smooth muscle lineage on micropatterned surfaces. *PLoS ONE* 6: e26029.
5. Yamada, M., et al. 2015. Cux2 activity defines a subpopulation of perinatal neurogenic progenitors in the hippocampus. *Hippocampus* 25: 253-267.

RESEARCH USE

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

PROTOCOLS

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

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