

nestin (D-9): sc-377380

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 (D-9) is a mouse monoclonal antibody raised against amino acids 235-320 of nestin of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

nestin (D-9) is available conjugated to agarose (sc-377380 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377380 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377380 PE), fluorescein (sc-377380 FITC), Alexa Fluor[®] 488 (sc-377380 AF488), Alexa Fluor[®] 546 (sc-377380 AF546), Alexa Fluor[®] 594 (sc-377380 AF594) or Alexa Fluor[®] 647 (sc-377380 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-377380 AF680) or Alexa Fluor[®] 790 (sc-377380 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

nestin (D-9) is recommended for detection of nestin of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

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.

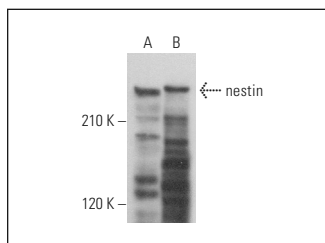
Molecular Weight of nestin: 190-200 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, IMR-32 cell lysate: sc-2409 or Neuro-2A whole cell lysate: sc-364185.

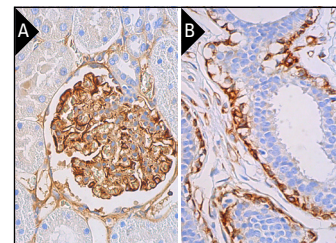
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



nestin (D-9): sc-377380. Western blot analysis of nestin expression in IMR-32 (A) and Neuro-2A (B) whole cell lysates.



nestin (D-9): sc-377380. Immunoperoxidase staining of formalin fixed, paraffin-embedded rat 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

- Ling, G.Q., et al. 2015. All-*trans* retinoic acid impairs the vasculogenic mimicry formation ability of U87 stem-like cells through promoting differentiation. *Mol. Med. Rep.* 12: 165-172.
- Sareddy, G.R., et al. 2017. Novel KDM1A inhibitors induce differentiation and apoptosis of glioma stem cells via unfolded protein response pathway. *Oncogene* 36: 2423-2434.
- Vu, H.T., et al. 2018. Autophagy inhibition synergizes with calcium mobilization to achieve efficient therapy of malignant gliomas. *Cancer Sci.* 109: 2497-2508.

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.

PROTOCOLS

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

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