

nestin (10c2): sc-23927



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 (10c2) 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.

nestin (10c2) is available conjugated to agarose (sc-23927 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-23927 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-23927 PE), fluorescein (sc-23927 FITC), Alexa Fluor[®] 488 (sc-23927 AF488), Alexa Fluor[®] 546 (sc-23927 AF546), Alexa Fluor[®] 594 (sc-23927 AF594) or Alexa Fluor[®] 647 (sc-23927 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-23927 AF680) or Alexa Fluor[®] 790 (sc-23927 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor[®] is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

nestin (10c2) 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.

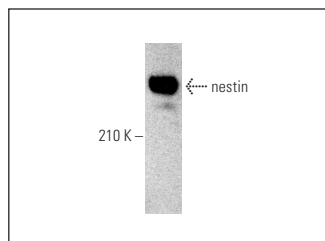
Molecular Weight of nestin: 190-200 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409.

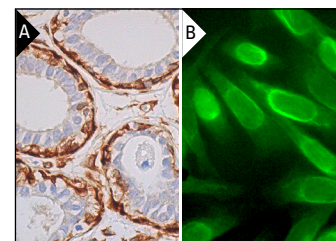
STORAGE

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

DATA



nestin (10c2): sc-23927. Western blot analysis of nestin expression in IMR-32 whole cell lysate.



nestin (10c2): sc-23927. Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast tissue showing cytoplasmic and membrane staining of myoepithelial cells (A). nestin (10c2) Alexa Fluor[®] 488: sc-23927 AF488. Direct immunofluorescence staining of formalin-fixed SW480 cells showing cytoplasmic and membrane localization. Blocked with UltraCruz[®] Blocking Reagent: sc-516214 (B).

SELECT PRODUCT CITATIONS

- Hou, Y.Y., et al. 2006. Schwannoma of the gastrointestinal tract: a clinicopathological, immunohistochemical and ultrastructural study of 33 cases. *Histopathology* 48: 536-545.
- Wu, W., et al. 2017. Differentiation of nestin-negative human hair follicle outer root sheath cells into neurons *in vitro*. *Mol. Med. Rep.* 16: 95-100.
- Krüger, K., et al. 2017. Expression of nestin associates with BRCA1 mutations, a basal-like phenotype and aggressive breast cancer. *Sci. Rep.* 7: 1089.
- Koepfen, A.H., et al. 2017. Friedreich ataxia: developmental failure of the dorsal root entry zone. *J. Neuropathol. Exp. Neurol.* 76: 969-977.
- Li, X., et al. 2017. CaMKII-mediated Beclin 1 phosphorylation regulates autophagy that promotes degradation of Id and neuroblastoma cell differentiation. *Nat. Commun.* 8: 1159.
- Miyamura, N., et al. 2017. YAP determines the cell fate of injured mouse hepatocytes *in vivo*. *Nat. Commun.* 8: 16017.
- Asleh-Aburaya, K., et al. 2017. Basal biomarkers nestin and INPP4b identify intrinsic subtypes accurately in breast cancers that are weakly positive for oestrogen receptor. *Histopathology* 70: 185-194.
- Pain, M., et al. 2018. Treatment-associated TP53 DNA-binding domain mis-sense mutations in the pathogenesis of secondary gliosarcoma. *Oncotarget* 9: 2603-2621.
- Festuccia, C., et al. 2018. The first-in-class alkylating deacetylase inhibitor molecule tinozamustine shows antitumor effects and is synergistic with radiotherapy in preclinical models of glioblastoma. *J. Hematol. Oncol.* 11: 32.

RESEARCH USE

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