

# neuroserpin (C-9): sc-48360

## BACKGROUND

Neuroserpin is an axonally secreted glycoprotein in the central nervous system (CNS) that belongs to the family of protease inhibitors known as serpins. Neuroserpin is a serine-protease inhibitor that forms SDS-stable complexes with tissue plasminogen activator (tPA), urokinase and plasmin, but not thrombin. Neuroserpin is expressed in the neocortex, the hippocampal formation, the olfactory bulb and the amygdala in the adult CNS, and it is expressed in the cerebellum, the granule cells and a subgroup of Purkinje cells in the developing embryo. tPA expression has been linked to "neuronal plasticity", either in the developing embryo CNS or in cases of synaptic remodeling or long-term potentiation. Overexpression of tPA may promote neuronal cell death. Mutations in the gene which codes for neuroserpin are linked to hereditary dementia. Intracerebral administration of neuroserpin after stroke decreases stroke volume and diminishes the apoptotic features of the resulting ischemic penumbra.

## REFERENCES

- Osterwalder, T., et al. 1996. Neuroserpin, an axonally secreted serine protease inhibitor. *EMBO J.* 15: 2944-2953.
- Krueger, S., et al. 1997. Expression of neuroserpin, an inhibitor of tissue plasminogen activator, in the developing and adult nervous system of the mouse. *J. Neurosci.* 17: 8984-8996.
- Hastings, G., et al. 1997. Neuroserpin, a brain-associated inhibitor of tissue plasminogen activator is localized primarily in neurons. *J. Biol. Chem.* 272: 33062-33067.

## CHROMOSOMAL LOCATION

Genetic locus: SERPINI1 (human) mapping to 3q26.1; Serpin1 (mouse) mapping to 3 E3.

## SOURCE

neuroserpin (C-9) is a mouse monoclonal antibody raised against amino acids 61-150 of neuroserpin of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

neuroserpin (C-9) is available conjugated to agarose (sc-48360 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-48360 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-48360 PE), fluorescein (sc-48360 FITC), Alexa Fluor<sup>®</sup> 488 (sc-48360 AF488), Alexa Fluor<sup>®</sup> 546 (sc-48360 AF546), Alexa Fluor<sup>®</sup> 594 (sc-48360 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-48360 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-48360 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-48360 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor<sup>®</sup> is a trademark of Molecular Probes, Inc., Oregon, USA

## STORAGE

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

## APPLICATIONS

neuroserpin (C-9) is recommended for detection of neuroserpin of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range ), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (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 neuroserpin siRNA (h): sc-42109, neuroserpin siRNA (m): sc-42110, neuroserpin shRNA Plasmid (h): sc-42109-SH, neuroserpin shRNA Plasmid (m): sc-42110-SH, neuroserpin shRNA (h) Lentiviral Particles: sc-42109-V and neuroserpin shRNA (m) Lentiviral Particles: sc-42110-V.

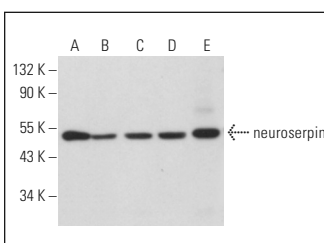
Molecular Weight of neuroserpin: 55 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, neuroserpin (h): 293 Lysate: sc-158761 or HeLa whole cell lysate: sc-2200.

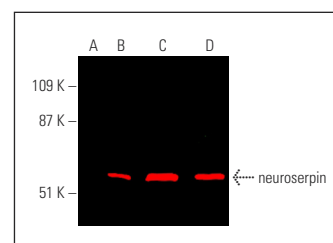
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## DATA



neuroserpin (C-9): sc-48360. Western blot analysis of neuroserpin expression in MOLT-4 (A), K-562 (B), Neuro-2A (C) and C6 (D) whole cell lysates and rat brain tissue extract (E).



neuroserpin (C-9): sc-48360. Near-infrared western blot analysis of neuroserpin expression in non-transfected 293: sc-117752 (A), human neuroserpin transfected 293: sc-158761 (B), IMR-32 (C) and HeLa (D) whole cell lysates. Blocked with UltraCruz<sup>®</sup> Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 790: sc-516181.

## SELECT PRODUCT CITATIONS

- Gupta, V., et al. 2017. Glaucoma is associated with plasmin proteolytic activation mediated through oxidative inactivation of neuroserpin. *Sci. Rep.* 7: 8412.

## RESEARCH USE

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