SANTA CRUZ BIOTECHNOLOGY, INC.

Nogo A (H-300): sc-25660

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

CNS white matter is selectively inhibitory for axonal out-growth. Nogo (also designated NI250 and Reticulon 4-A) is an oligodendrocyte-specific member of the Reticulon family and is a component of CNS white matter that inhibits axon outgrowth, induces collapse of growth cones of chick dorsal root ganglion cells, and inhibits the spreading of 3T3 fibroblasts. Other members of the reticulin protein family do not inhibit axon extension and are thought to have a role in ER function. Nogo is expressed by oligodendrocytes but not by Schwann cells, and associates primarily with the endoplasmic reticulum. Nogo exists in three different splice forms, Nogo-A, -B and -C.

REFERENCES

1. Schwab, M.E. and Thoenen, H. 1985. Dissociated neurons regenerate into sciatic but not optic nerve explants in culture irrespective of neurotrophic factors. J. Neurosci. 5: 2415-2423.
2. Schwab, M.E. and Caroni, P. 1988. Oligodendrocytes and CNS Myelin are nonpermissive substrates for neurite growth and fibroblast spreading *in vitro*. J. Neurosci. 8: 2381-2393.
3. Caroni, P. and Schwab, M.E. 1988. Two membrane protein fractions from rat central Myelin with inhibitory properties for neurite growth and fibroblast spreading. J. Cell Biol. 106: 1281-1288.

CHROMOSOMAL LOCATION

Genetic locus: RTN4 (human) mapping to 2p16.1; Rtn4 (mouse) mapping to 11 A3.3.

SOURCE

Nogo A (H-300) is a rabbit polyclonal antibody raised against amino acids 701-1000 of Nogo A of human origin.

PRODUCT

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

APPLICATIONS

Nogo A (H-300) is recommended for detection of Nogo A of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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), 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).

Molecular Weight (predicted) of Nogo variants: 130/40/22/106/42/108 kDa.

Molecular Weight (observed) of Nogo variants: 51/162-170/202-255 kDa.

Positive Controls: Nogo (h2): 293T Lysate: sc-112689, HeLa whole cell lysate: sc-2200 or TE671 cell lysate: sc-2416.

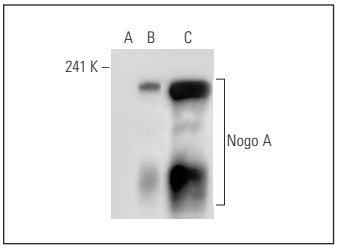
RESEARCH USE

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

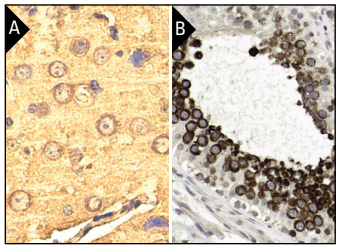
STORAGE

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

DATA



Nogo A (H-300): sc-25660. Western blot analysis of Nogo A expression in non-transfected 293T: sc-117752 (**A**), human Nogo A transfected 293T: sc-112689 (**B**) and TE671 (**C**) whole cell lysates.



Nogo A (H-300): sc-25660. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse brain tissue showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic staining of cells in ductus seminiferus. Kindly provided by The Swedish Human Protein Atlas (HPA) program (**B**).

SELECT PRODUCT CITATIONS

1. Shin, J.W., et al. 2006. Cell size-dependent Nogo A expression in layer V pyramidal neurons of the rat primary somatosensory cortex. Neurosci. Lett. 394: 117-120.
2. Liu, X., et al. 2009. Nogo A inhibits necdin-accelerated neurite outgrowth by retaining necdin in the cytoplasm. Mol. Cell. Neurosci. 41: 51-61.
3. Nagamoto-Combs, K., et al. 2010. Long-term gliosis and molecular changes in the cervical spinal cord of the rhesus monkey after traumatic brain injury. J. Neurotrauma 27: 565-585.
4. Seshadri, S., et al. 2010. Disrupted-in-schizophrenia-1 expression is regulated by β-site amyloid precursor protein cleaving enzyme-1-neuregulin cascade. Proc. Natl. Acad. Sci. USA 107: 5622-5627.
5. Kilic, E., et al. 2010. Role of Nogo A in neuronal survival in the reperfused ischemic brain. J. Cereb. Blood Flow Metab. 30: 969-984.
6. Gil, V., et al. 2010. Developmental expression of the oligodendrocyte myelin glycoprotein in the mouse telencephalon. Cereb. Cortex 20: 1769-1779.
7. Blaise, S., et al. 2012. *In vivo* evidence that TRAF4 is required for central nervous system myelin homeostasis. PLoS ONE 7: e30917.
8. Mi, Y., et al. 2014. A novel centrosome and microtubules associated subcellular localization of Nogo A: implications for neuronal development. Int. J. Biochem. Cell Biol. 57: 1-6.