ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

Neurite Outgrowth inhibitor protein C (Nogo-C) Antibodies

Cat # NogoC31-P	Rat Nogo-C control/blocking Peptide	**SIZE**: 100 ug
Cat # NogoC31-S	Rabbit Anti-Rat Nogo-C antiserum #1	**SIZE**: 100 ul
Cat # NogoC31-A	Rabbit Anti-Rat Nogo-C IgG#1 (aff pure)	**SIZE**: 100 ug

Many tissues such as muscle, skin, liver, and peripheral nerve, have remarkable ability to repair and regrow after injury. However, the CNS (brain and spinal cord) is limited in its ability to repair or regrowth causing permanent brain damage or paralyses. Most recently an inhibitory myelin protein, **Nogo (Neurite outgrowth**), has been cloned and characterized. It may help block the regeneration of the CNS. Nogo is the 4th member of **reticulon** (**Rtn**) family. There are three alternative isoforms of Nogo, designated **Nogo-A** (full length human protein 1192 aa; calculated mol wt 135 kDa; rat 1163 aa), an intermediate form **Nogo-B** (373 aa; ~37 K, lacks 186-1004 aa within the extracellular domain), and a shorter form **Nogo-C** (199 aa; ~25 K, similar to rat vp20 and foocen-s; lacks 186-1004 aa but which has a smaller, alternative N-terminal domain). Nogo-A has a putative extracellular domain of 1024 AA, 2-3 TM domains, and a short C-terminus of 43 AA. Nogo-A is localized to the CNS-myelin, and is highly expressed in oligodendorcytes but not by Schwann cells. Nogo-B and Nogo-C have been found in several non-neuronal tissues (skeletal muscle, kidney, skin, lung, and spleen), and it may be the 35-kDa protein recognized by IN-1 antibody.

FUNCTION: Potent neurite growth inhibitor in vitro and plays a role both in the restriction of axonal regeneration after injury and in structural plasticity in the CNS. Isoform 2 and isoform 3 inhibit BACE1 activity and amyloid precursor protein processing.
SUBCELLULAR LOCATION: Endoplasmic reticulum membrane; Multi-pass membrane protein (By similarity). Note=Anchored to the membrane of the endoplasmic reticulum through 2 putative transmembrane domains (By similarity).
SIMILARITY: Contains 1 reticulon domain.
Protein name Reticulon-4
Synonyms Neurite outgrowth inhibitor
Nogo protein, Foocen
Glut4 vesicle 20 kDa protein
Gene name Name: Rtn4; Synonyms: Nogo

Source of Antigen and Antibodies

Antigen	11-aa peptide from **rat Nogo-C (1)**; (protein accession #Q9JK11, refs 1) **Designation (#NogoC31-P, control/blocking peptide**) conjugated to KLH; Epitope location ~N-terminus Extracellular domain
Ab Host/type	Rabbit, Polyclonal unpurified antiserum (#**NogoC31**-S) and IgG, purified over antigen-agarose (Cat # **NogoC31**-A)
2-Ab	Cat # 20320, **goat anti-rabbit IgG-HRP** (AP, biotin, FITC conjugates also available).
-ve control	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)
☐ 100 ul ☐ Solution ☐ Lyophilized powder
Supplied in Buffer: 0.1% azide
Reconstitute powder in 100 ul PBS

Affinity pure IgG
☐ 100 ug/100 ul ☐ Solution ☐ Lyophilized powder
Supplied in **Buffer**: PBS + 0.1% BSA
Reconstitute powder in PBS at 1 mg/ml

Control/blocking peptide
☐ 100 ug/100 ul ☐ Solution ☐ Lyophilized powder
Supplied in Buffer: PBS pH 7.5
Reconstitute powder in PBS at 1 mg/ml

Storage
Short-term: unopened, undiluted liquid vials at -20°C and powder at 4°C or -20°C..

Long-term: at -20°C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at -20°C or below.
Shipping: 4°C for solutions and room temp for powder

Recommended Usage

Western Blotting (1:1K-5K for neat serum and 1-10 ug/ml for affinity pure using Chemiluminescence technique). Nogo-C has a mol. Wt of ~25 kDa (1). NOT TESTED

ELISA (1:10K-1:100K; using 50-100 ng of control peptide/well).

Histochemistry: Not tested**.** We recommend the use of 2-20 ug/ml of affinity pure antibody.

Specificity & Cross-reactivity

Rat NogoC31-P peptide sequence is 100% conserved in human, bovine, monkey, pig, and 81% in mouse Nogo-C/foocen-S/RTN4. Most of this region is unique to Nogo-C and not conserved in Nogo-A/B isoforms. Antibody crossreactivity of NogoC31 in various species is not established. Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity

General References: **(1)**Chen MS et al (2000) Nature 403, 434-439; GrandPre T et al (2000) Nature 403; 439-444; Goldberg JL and Barres BA (2000) Nature 403; 369-370; Prinjha R et al (2000) Nature 403, 383-384; Tessier-Lavigne M and Goodman CS (2000) Science 287, 813-814; Nagase T et al (1998) DNA Res. 5, 355-364

*This product is for In vitro research use only.

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