ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

Nogo-66 receptor (Ngr) Antibodies

Cat. # Ngr11-P	Human Ngr control/blocking Peptide # 1	**SIZE**: 100 ug
Cat. # Ngr11-S	Rabbit Anti-Human Ngr antiserum # 1	**SIZE**: 100 ul
Cat. # Ngr11-A	Rabbit Anti-Human Ngr IgG # 1 (affinity 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), 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). A 66-aa hydrophilic region of Nogo (**Nogo-66**), located between the two TM domains, has the most inhibitory properties of Nogo. In contrast to Nogo, Rtn 1, -2, and 3 do not inhibit axonal regeneration. This 66-aa region also has the least similarity to Rtn proteins. The corresponding **Rtn-P4** peptide sequence has no activity.

Recently, a brain specific leucine-rich-repeat protein with high affinity for soluble Nogo-66, termed **Nogo receptor** (**Ngr**) has been cloned and characterized. Cleavage of Ngr from the axonal surface renders neurons insensitive to Nogo-66. Ngr expression is sufficient to impart Nogo-66 axonal inhibition to unresponsive neurons. Ngr protein (mouse, rat, monkey, and human 473 aa; chromosome 22q11) contains a signal sequence followed by eight LRR domains, an LRR cysteine-rich CT-flanking domain, and unique GPI anchorage site. Human and mouse Ngr proteins are ~89% identical. Ngr is expressed in brain and lower levels are also detected in hear and kidney but not in other peripheral tissues. Ngr has been localized to axons.

FUNCTION: Receptor for RTN4, OMG and MAG. Mediates axonal growth inhibition and may play a role in regulating axonal regeneration and plasticity in the adult central nervous system
SUBCELLULAR LOCATION: Cell membrane; Lipid-anchor, GPI-anchor (By similarity).
SIMILARITY: Belongs to the Nogo receptor family.
Protein name Reticulon-4 receptor [Precursor**]**
Synonyms Nogo receptor**,NgR,**
Nogo-66 receptor
Gene name Name: RTN4R **Synonyms:** NOGOR
ORFNames: QccE-10286

Source of Antigen and Antibodies

Antigen	A 17-aa peptide (protein accession #Q9N0E3, refs 1) (**designated NGR11-P control peptides**) within the C-terminus of **human Ngr** (1) was synthesized, conjugated to KLH and injected into **rabbits**. Control peptide was used to **affinity purify** antibodies conjugated to KLH.
Ab Host/type	Rabbit, Polyclonal unpurified antiserum (#**NCX12**-S) and IgG, purified over antigen-agarose (Cat # **NCX12**-A)purified over the antigen column
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)
100ul solution lyophilized powder
Supplied in Buffer: 0.05% azide
Reconstitute powder in 100 ul PBS

Affinity pure IgG
100 ug/100ul solution lyophilized powder
Supplied in **Buffer**: PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/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 -20OC and powder at 4oC or -20oC..
Long-term: at –20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at –20oC or below.
Shipping: 4oC 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).

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

The human NGR11-P peptide sequence is 100% conserved in human, mouse, rat, and monkey Ngr. No significant sequence homology of NGR11-P is detected with Rtn family members. Antibody crossreactivity 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 (see detailed protocol at: www.4adi.com\data\abblock.html).

General References: 1. Fournier AE et al (2001) Nature 409, 341-346, 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.

Related material available from ADI

Anti-Nogo A, -B, -C, amyloid 1-40, 1-42, APP, Parkin, Synucleins (α, β, γ), Presenilins 1, 2

Ngr11-S-A-P 70828J

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