ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

NGR3/NgRH2 Antibodies

Cat. # NGR31-P	Human Ngr3 control/blocking Peptide # 1	**SIZE**: 100 ug
Cat. # NGR31-S	Rabbit Anti-Human Ngr3 antiserum # 1	**SIZE**: 100 ul
Cat. # NGR31-A	Rabbit Anti-Human Ngr3 IgG (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. 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 is expressed in brain and lower levels are also detected in hear and kidney but not in other peripheral tissues.

Additional proteins homologous to Ngr have now been identified and designated **NGR2 or NgRH1** (nogo-66 receptor homolog-1; human and rat 420 aa; chromosome 11q12.1) and **Ngr3 or NgRH2** (nogo-66 receptor homolog-2; rat 438 aa; mouse, 445 aa; human 441 aa, chromosome 17p13.3). There is approx. 45% sequence homology between the NGR1-3. Despite high degree of sequence homology and similar protein topology, the NGR2 and NGR3 do not bind Nogo, MAG, Omgp or NGR1. The identity of other natural ligands for NGR2-3, and the physiological roles of NGR2-3 are unknown. Both NGR2 and NGR3 are expressed in the brain. The NGR2-3 proteins appeared as ~45 and ~65 kda protein (glycosylated).

FUNCTION: May play a role in regulating axonal regeneration and plasticity in the adult central nervous system.
SUBCELLULAR LOCATION: Cell membrane; Lipid-anchor, GPI-anchor. Note=Localized to the surface of neurons, including axons.
SIMILARITY: Belongs to the Nogo receptor family.

Protein name Reticulon-4 receptor-like 1 [Precursor]
Synonyms Nogo-66 receptor homolog 2
Nogo-66 receptor-related protein 3, NgR3
Nogo receptor-like 2
Gene name Name: RTN4RL1, Synonyms: NGRH2, NGRL2

Source of Antigen and Antibodies

Antigen	18-aa peptide of Human NGR3 (1)(protein accession #Q86UN2) , refs 1 ; **Designated (NGR31-P or control peptide).**conjugated to KLH;Epitope location ~C-terminal
Ab Host/type	Rabbit, Polyclonal IgG, purified over antigen-agarose (Cat # NGR31-A) supplied in PBS+0.1% BSA+0.05% azide
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.

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 NGR31-P peptide sequence is 100% conserved in mouse and rat Ngr3. No significant sequence homology of NGR31-P is detected with NGR1 or NGR2. 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. Pignot V et al (2003) J Neurochem. 85, 717-728; EMBO J (2003) 22, 3291-3303; 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

NGR31-S-A-P 70828J

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