Datasheet: NB-47-04799-200UG

Description:	MOUSE ANTI HUMAN N-CADHERIN
Specificity:	N-CADHERIN
Other names:	CD325
Format:	Purified
Product Type:	Monoclonal Antibody
Clone:	13A9
Isotype:	IgG1
Quantity:	0.2 mg

Product Details

Applications

This product has been reported to work in the following applications. This information is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information.

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry			▪	
Immunohistology - Frozen	▪			
Immunohistology - Paraffin (1)	▪			
ELISA			▪	
Immunoprecipitation	▪			
Western Blotting	▪			1/100 - 1/1000
Immunofluorescence	▪			

Where this antibody has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. Suggested working dilutions are given as a guide only. It is recommended that the user titrates the antibody for use in their own system using appropriate negative/positive controls.

(1) **This product requires antigen retrieval using steam heat treatment prior to staining of paraffin sections. Sodium citrate buffer pH 6.0 is recommended for this purpose.**

Target Species

Human

Species Cross Reactivity

Reacts with: Rat

N.B. Antibody reactivity and working conditions may vary between species. Cross reactivity is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information.

Product Form	Purified IgG - liquid
Preparation	Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant
Buffer Solution	Phosphate buffered saline
Preservative Stabilisers	0.09% Sodium Azide (NaN_3)
Carrier Free	Yes
Approx. Protein Concentrations	IgG concentration 1.0mg/ml
Immunogen	Recombinant MBP fusion protein containing the entire cytoplasmic domain of human N-cadherin.
Synonyms	CDHN, NCAD
RRID	AB_11152772

Specificity

Mouse anti Human N-cadherin antibody, clone 13A9 recognizes neural cadherin, otherwise known as CD325, a calcium dependent cell-cell adhesion glycoprotein, and member of the cadherin superfamily, which links to the actin cytoskeleton via catenins, and plays a role in cell-matrix adhesion, cell growth and differentiation, and the establishment of left-right asymmetry.

N-cadherin is expressed by neurons, endothelial cells, muscle cells, and stem cells, and is one of the primary cadherins recruited to the site of neuronal synapse formation. N-cadherin is directly involved in the differentiation of early hematopoietic progenitors, and is commonly expressed by cancer cells, playing a role in transendothelial migration and metastasis, through the up-regulation of the src kinase pathway, and subsequent failure of the intercellular connection between two adjacent endothelial cells.

Mouse anti Human N-cadherin antibody, clone 13A9 studies have demonstrated that expression levels of E-Cadherin and N-Cadherin have a role to play in the invasive properties of breast cancer. Decreased levels of E-cadherin and loss of E-cadherin-mediated adhesion, can result in the transition of a benign epithelial tumor to an invasive tumor, and increase invasiveness, whilst the expression of N-cadherin correlates with

motility, invasiveness and tumor metastasis, irrespective of the presence of E-cadherin (Nieman *et al.* 1999).

Mouse anti Human N-cadherin antibody, clone 13A9 has been shown to be specific for N-cadherin, and does not recognize E-cadherin, M-cadherin or P-cadherin (Knudsen *et al.* 1995). Immunohistological studies have shown that clone 13A9 can be used as a reliable marker for the differential diagnosis of pleural mesotheliomas and lung adenocarcinomas, when used in conjunction with E-cadherin (Han *et al.* 1997).

Western Blotting

NB-47-04799-200UG detects a band of approximately 135-140kDa in human HeLa cell lysates.

References

1. Wahl, J.K. 3rd *et al.* (2003) N-cadherin-catenin complexes form prior to cleavage of the proregion and transport to the plasma membrane. J Biol Chem. 278 (19): 17269-76.

2. Knudsen, K.A. *et al.* (1995) Interaction of alpha-actinin with the cadherin/catenin cell-cell adhesion complex via alpha-catenin. J Cell Biol. 130 (1): 67-77.

3. Machell, N.H. *et al.* (2000) Developmental expression and distribution of N- and E-cadherin in the rat ovary. Biol Reprod. 63 (3): 797-804.

4. Han, A.C. *et al.* (1997) Differential expression of N-cadherin in pleural mesotheliomas and E-cadherin in lung adenocarcinomas in formalin-fixed, paraffin-embedded tissues. Hum Pathol. 28 (6): 641-5.

5. Peralta Soler, A. *et al.* (1995) The differential expression of N-cadherin and E-cadherin distinguishes pleural mesotheliomas from lung adenocarcinomas. Hum Pathol. 26 (12): 1363-9.

6. Van Aken, E.H. *et al.* (2002) Structure and function of the N-cadherin/catenin complex in retinoblastoma. Invest Ophthalmol Vis Sci. 43 (3): 595-602.

7. Shintani, Y. *et al.* (2006) Phosphoinositide-3 kinase-Rac1-c-Jun NH2-terminal kinase signaling mediates collagen I-induced cell scattering and up-regulation of N-cadherin expression in mouse mammary epithelial cells. Mol Biol Cell. 17: 2963-75.

8. Sacco, P.A. *et al.* (1995) Identification of plakoglobin domains required for association with N-cadherin and alpha-catenin. J Biol Chem. 270: 20201-6.

9. Tian, G. *et al.* (2009) Clarin-1, encoded by the Usher Syndrome III causative gene, forms a membranous microdomain: possible role of clarin-1 in organizing the actin cytoskeleton. J Biol Chem. 284: 18980-93.

10. Theisen, C.S. *et al.* (2007) NHERF links the N-cadherin/catenin complex to the platelet-derived growth factor receptor to modulate the actin cytoskeleton and regulate cell motility. Mol Biol Cell. 18: 1220-32.

11. Nieman, M.T. *et al.* (1999) N-cadherin promotes motility in human breast cancer cells regardless of their E-cadherin expression. J Cell Biol. 147 (3): 631-44.

12. Islam, S. *et al.* (1996) Expression of N-cadherin by human squamous carcinoma cells induces a scattered fibroblastic phenotype with disrupted cell-cell adhesion. J Cell Biol. 135 (6 Pt 1): 1643-54.

13. Peralta Soler, A. *et al.* (1999) P-cadherin expression in breast carcinoma indicates poor survival. Cancer. 86: 1263-72.

Storage

This product is shipped at ambient temperature. It is recommended to aliquot and store at -20°C on receipt. When thawed, aliquot the sample as needed. Keep aliquots at 2-8°C for short term use (up to 4 weeks) and store the remaining aliquots at -20°C.

	Avoid repeated freezing and thawing as this may denature the antibody. Storage in frost-free freezers is not recommended.
Guarantee	12 months from date of despatch
Regulatory	For research purposes only