Datasheet: MCA5698

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

RRID AB_11152772

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. For general protocol recommendations, please visit www.bio-rad-antibodies.com/protocols.

	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.

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.
External Database Links	**UniProt:** P19022 Related reagents Q9Z1Y3 Related reagents **Entrez Gene:** 1000 CDH2 Related reagents 83501 Cdh2 Related reagents
Synonyms	CDHN, NCAD
Specificity	**Mouse anti Human N-cadherin antibody, clone 13A9** specifically 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	MCA5698 detects a band of approximately 135-140kDa in human HT-1080 and 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	Store at +4°C or at -20°C if preferred. This product should be stored undiluted. Storage in frost free freezers is not recommended. Avoid repeated freezing and thawing as this may denature the antibody. Should this product contain a precipitate we recommend microcentrifugation before use.
Guarantee	18 months from date of despatch.
Health And Safety Information	Material Safety Datasheet documentation #10040 available at: 10040: https://www.bio-rad-antibodies.com/uploads/MSDS/10040.pdf
Regulatory	For research purposes only

Related Products

Recommended Secondary Antibodies

Goat Anti Mouse IgG IgA IgM (STAR87...)	Alk. Phos., HRP
Goat Anti Mouse IgG (STAR77...)	HRP
Rabbit Anti Mouse IgG (STAR12...)	RPE
Rabbit Anti Mouse IgG (STAR8...)	DyLight®800
Rabbit Anti Mouse IgG (STAR13...)	HRP
Goat Anti Mouse IgG (STAR76...)	RPE
Goat Anti Mouse IgG (STAR70...)	FITC
Goat Anti Mouse IgG (Fc) (STAR120...)	FITC, HRP

Rabbit Anti Mouse IgG (STAR9...)	FITC
Goat Anti Mouse IgG (H/L) (STAR117...)	Alk. Phos., DyLight®488, DyLight®549, DyLight®649, DyLight®680, DyLight®800, FITC, HRP

Recommended Negative Controls

MOUSE IgG1 NEGATIVE CONTROL (MCA928)

North & South America
Tel: +1 800 265 7376
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