Technical Data Sheet

Purified Mouse anti-Human CD325

Product Information

Material Number:	**561553**
Alternate Name:	Cadherin-2, N-Cadherin
Entrez Gene ID:	1000
Size:	0.1 mg
Concentration:	0.5 mg/ml
Clone:	8C11
Immunogen:	Human extracellular N-Cadherin domain Recombinant Protein
Isotype:	Mouse IgG1, κ
Reactivity:	QC Tested: Human
Target MW:	130 kDa
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

The 8C11 monoclonal antibody recognizes the extracellular domain of human N-Cadherin (CD325). Cadherins are a family of Ca2+ -dependent intercellular adhesion molecules that play a central role in controlling morphogenetic movements during development. Their function is regulated by association with the actin cytoskeleton by a complex of cytoplasmic proteins called the catenins (α, β, γ). Members of the cadherin family include P-cadherin , E-cadherin (uvomorulin), N-cadherin (neural cadherin), R-cadherin, cadherin 5, L-CAM, and EP-cadherin. N-cadherin mRNA is found at elevated levels in brain and heart and at a much lower level in liver. Mechanisms such as mRNA expression, cytokine modulation, and protease-mediated turnover modulate N-cadherin protein levels during development. In addition, N-cadherin function is indirectly regulated by endogenous kinases and phosphatases. Tyrosine phosphorylation of β-catenin complexed with N-cadherin results in dissociation of N-cadherin from actin. However, N-cadherin also interacts with a PTP1B-like phosphatase that dephosphorylates β-catenin and promotes N-cadherin/actin association. Thus, N-cadherin is an integral adhesion molecule whose function is regulated by protein-protein interactions and phosphorylation/dephosphorylation events.

Western blot analysis of N-Cadherin in H9-derived neural stem cells (NSC) and transformed human epithelioid carcinoma (HeLa). *A NSC lysate (left panel) and a HeLa cell lysate (right panel) (Cat. No.611449) were probed with Purified Mouse anti-Human CD325 monoclonal antibody at concentrations of 0.5, 0.25, and 0.125 µg/ml (lanes 1, 2, and 3, respectively). N-Cadherin is identified as a band of 130 kDa.*

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
Store undiluted at 4°C.

Application Notes

Application

Western blot	Routinely Tested
Flow cytometry	Tested During Development
Bioimaging	Tested During Development
Immunofluorescence	Tested During Development

Recommended Assay Procedure:

Because the extracellular domain of N-Cadherin is trypsin-sensitive, it is important to avoid using trypsin to dissociate the cells to be studied.

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Suggested Companion Products

Catalog Number	Name	Size	Clone
611449	HeLa Cell Lysate	500 µg	(none)
554002	HRP Goat Anti-Mouse Ig	1.0 ml	(none)
555746	Purified Mouse IgG1, κ Isotype Control	0.1 mg	MOPC-21
554656	Stain Buffer (FBS)	500 ml	(none)

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. An isotype control should be used at the same concentration as the antibody of interest.
3. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
4. Sodium azide is a reversible inhibitor of oxidative metabolism; therefore, antibody preparations containing this preservative agent must not be used in cell cultures nor injected into animals. Sodium azide may be removed by washing stained cells or plate-bound antibody or dialyzing soluble antibody in sodium azide-free buffer. Since endotoxin may also affect the results of functional studies, we recommend the NA/LE (No Azide/Low Endotoxin) antibody format, if available, for in vitro and in vivo use.
5. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.

References

Knudsen KA, Soler AP, Johnson KR, Wheelock MJ. Interaction of alpha-actinin with the cadherin/catenin cell-cell adhesion complex via alpha-catenin. *J Cell Biol.* 1995; 130:66-77. (Biology)

Puch S, Armeanu S, Kibler C, et al. N-cadherin is developmentally regulated and functionally involved in early hematopoietic cell differentiation. *J Cell Sci.* 2001; 114(8):1567-1577. (Clone-specific: Flow cytometry)

Wein F, Pietsch L, Saffrich R, et al. N-Cadherin is expressed on human hematopoietic progenitor cells and mediates interaction with human mesenchymal stromal cells. *Stem Cell Res.* 2010; 4(2):129-139. (Clone-specific: Flow cytometry)