Technical Data Sheet

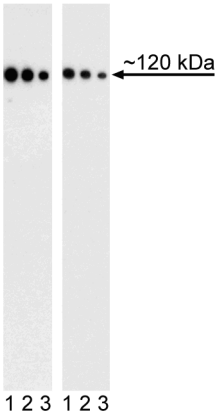
Purified Mouse Anti-Human CD324 (E-Cadherin)

Product Information

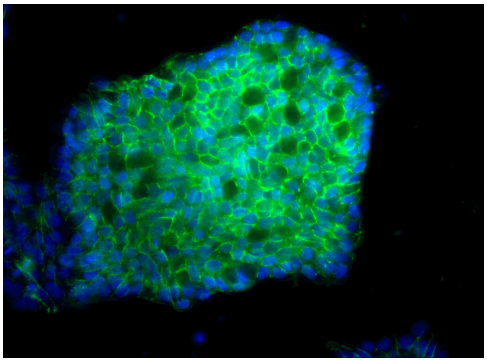
Material Number:	**562869**
Alternate Name:	E-cadherin
Size:	50 µg
Concentration:	0.5 mg/ml
Clone:	67A4
Immunogen:	Human Breast Tumor Cell Line
Isotype:	Mouse (BALB/c) IgG1, κ
Reactivity:	QC Testing: Human
Target MW:	~120 kDa
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

The 67A4 monoclonal antibody recognizes the extracellular domain of human E-Cadherin (CD324). E-Cadherin is a 120-kDa transmembrane glycoprotein that is localized in the adherens junctions of epithelial cells. There it interacts with the cytoskeleton through the associated cytoplasmic catenin proteins. In addition to being a calcium-dependent adhesion molecule, E-Cadherin is also a critical regulator of epithelial junction formation. Its association with catenins is necessary for cell-to-cell adhesion. These E-Cadherin/catenin complexes associate with cortical actin bundles at both the zonula adherens and the lateral adhesion plaques. Tyrosine phosphorylation can disrupt these complexes, leading to changes in cell adhesion properties. E-Cadherin expression is often down-regulated in highly invasive, poorly differentiated carcinomas. Increased expression of E-Cadherin in these cells reduces their invasiveness. Thus, loss of expression or function of E-Cadherin appears to be an important step in tumorigenic progression. Pluripotent stem cells express E-Cadherin. Upon differentiation, an epithelial to mesenchymal transition results in the loss of E-cadherin expression and a gain in the expression of N-cadherin.



Western blot analysis of CD324 (E-cadherin) expression in human breast adenocarcinoma and human embryonic stem (ES) cells. *Cell Lysates from a human breast adenocarcinoma cell line MCF-7 (ATCC HTB-22, left blot) and H9 human ES Cells (WiCell, Madison, WI, right blot) were probed with Purified Mouse Anti-Human CD324 (E-Cadherin) monoclonal antibody at titrations of 0.125 (lanes 1), 0.063 (lanes 2), 0.032 (lanes 3) µg/ml. Proteins were detected using HRP Goat Anti-Mouse Ig (Cat. No. 554002). CD324 (E-cadherin) is identified as a band of ~120 kDa in MCF7 and Human ES cells.*



Immunoflourescent staining of CD324 (E-cadherin) on human embryonic stem (ES) cells. *H9 human ES cells (WiCell, Madison, WI) passage 45 grown in mTESR™1 media (StemCell Technologies) on BD Matrigel™ hESC-qualified Matrix (Cat. No. 354277) were fixed with BD Cytofix™ Fixation Buffer (Cat. No. 554655). Cells were stained with Purified Mouse Anti-Human CD324 (E-Cadherin) monoclonal antibody (pseudo-colored green) at 2.5 µg/ml. The second-step reagent was Alexa Fluor® 488 goat anti-mouse Ig (Life Technologies), and cell nuclei were stained with DAPI (pseudo-colored blue). The images were captured on a BD Pathway™ 435 Cell Analyzer and merged using BD Attovision™ software.*

Preparation and Storage

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

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Application Notes

Application

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

Suggested Companion Products

Catalog Number	Name	Size	Clone
554002	HRP Goat Anti-Mouse Ig	1.0 ml	(none)
562870	PE Mouse Anti-Human CD324 (E-Cadherin)	100 tests	67A4
554655	Fixation Buffer	100 ml	(none)

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. 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.
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. Alexa Fluor® is a registered trademark of Molecular Probes, Inc., Eugene, OR.
6. All other brands are trademarks of their respective owners.

References

Behrens J, Vakaet L, Friis R, et al. Loss of epithelial differentiation and gain of invasiveness correlates with tyrosine phosphorylation of the E-cadherin/beta-catenin complex in cells transformed with a temperature-sensitive v-SRC gene. *J Cell Biol.* 1993; 120(3):757-766. (Biology)

Bühring HJ, Müller T, Herbst R, et al. The adhesion molecule E-cadherin and a surface antigen recognized by the antibody 9C4 are selectively expressed on erythroid cells of defined maturational stages. *Leukemia.* 1996; 10(1):106-116. (Clone-specific: Flow cytometr)

Cepek KL, Shaw SK, Parker CM, et al. Adhesion between epithelial cells and T lymphocytes mediated by E-cadherin and the aEb7 integrin. *Nature.* 1994; 372:190-193. (Biology)

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Takeichi M. The cadherins: cell-cell adhesion molecules controlling animal morphogenesis. *Development.* 1988; 102(4):639-655. (Biology)

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