Human Cadherin-11 Antibody

Monoclonal Mouse IgG_{2B} Clone # 283416

Catalog Number: MAB1790

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Cadherin-11 in direct ELISAs and Western blots. Does not cross-react with recombinant human (rh) Cadherin-4, rhCadherin-8, rhCadherin-12, rhCadherin-13, rhCadherin-17, rhE-Cadherin, rhN-Cadherin, rhP-Cadherin, or rhVE-Cadherin.
Source	Monoclonal Mouse IgG_{2B} Clone # 283416
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	*S. frugiperda* insect ovarian cell line *Sf* 21-derived recombinant human Cadherin−11 Phe23-Thr617 Accession # AAA35622
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 μm filtered solution in PBS.

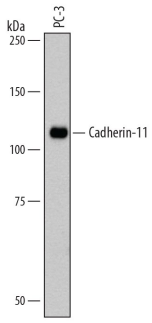
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	1 µg/mL	See Below
Immunohistochemistry	8-25 µg/mL	See Below
Simple Western	20 µg/mL	See Below

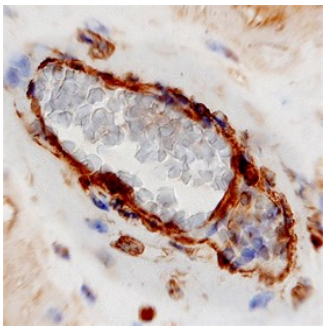
DATA

Western Blot



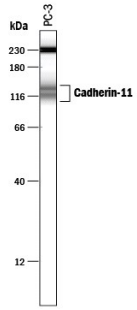
Detection of Human Cadherin-11 by Western Blot. Western blot shows lysates of PC-3 human prostate cancer cell line. PVDF membrane was probed with 1 µg/mL of Mouse Anti-Human Cadherin-11 Monoclonal Antibody (Catalog # MAB1790) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF007). A specific band was detected for Cadherin-11 at approximately 110 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunohistochemistry



Cadherin-11 in Human Placenta. Cadherin-11 was detected in immersion fixed paraffin-embedded sections of human placenta using Mouse Anti-Human Cadherin-11 Monoclonal Antibody (Catalog # MAB1790) at 8 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Mouse HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS002) and counterstained with hematoxylin (blue). View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

Simple Western



Detection of Human Cadherin-11 by Simple Western™. Simple Western lane view shows lysates of PC-3 human prostate cancer cell line, loaded at 0.2 mg/mL. Specific bands were detected for Cadherin-11 at approximately 114 & 137 kDa (as indicated) using 20 µg/mL of Mouse Anti-Human Cadherin-11 Monoclonal Antibody (Catalog # MAB1790). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system. Non-specific interaction with the 230 kDa Simple Western standard may be seen with this antibody.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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BACKGROUND

The cadherin superfamily comprises a large number of membrane glycoproteins with one or more cadherin repeats, which are involved in Ca^{2+} dependent cell-cell adhesion. The family can be subdivided into several major subgroups, including the type I and type II classical cadherins, desmosomal cadherins, protocadherins, seven transmembrane (Flamingo) cadherins, FAT-family cadherins, T-cadherin and other unclassified cadherins (1). Cadherin-11, also known as OB-cadherin, is a type II classical cadherin. Classical cadherins are type I transmembrane proteins with an N-terminal extracellular domain containing five tandem cadherin repeats and a C-terminal cytoplasmic domain with a characteristic sequence for binding to catenins. Type I cadherins (E-, N-, P-, R-, M-, and EP-cadherin) differ from type II cadherins (cadherin-5 to -12, -18 to -20 and -22) by the presence of the HAV tripeptide motif in the most N-terminal cadherin repeat (2). Classic cadherins mediate cell-cell adhesion preferentially via homotypic interactions and form adherens juctions that have β-catenin and p120 (ctn) at the cytoplasmic side of the junction (3, 4). Homotypic cadherin interactions also transduce outside-in and inside-out cell signals. Cadherin signaling induces various cellular processes including cell motility, actin cytoskeleton reorganization, proliferation, and differentiation (3, 4). Cadherin-11 is expressed in a variety or normal tissues of mesodermal origin including areas of the kidney and brain, in normal osteoblasts, and in tumors of the stomach, kidney, colon, breast, and bone (osteosarcoma) (5, 6). It is also differentially expressed in the embryonic brain and may be important in regulating neural development. Human Cadherin-11 exhibits a unique mRNA splice site allowing for two forms of the protein to be expressed, a full-length 796 amino acid (aa) protein and a COOH terminus-truncated variant of 693 aa. The truncated variant has a unique cytoplasmic region due to a frameshift event (3). The full-length human and mouse Cadherin-11 share 97% homology at the aa sequence level.

References:

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