Human Cadherin-7 Antibody

Monoclonal Mouse IgG_{2B} Clone # 1087216

Catalog Number: MAB11591

DESCRIPTION

Species Reactivity	Human
Specificity	Detects rhCDH-7 in Direct ELISA.
Source	Monoclonal Mouse IgG_{2B} Clone # 1087216
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Chinese Hamster Ovary cell line, CHO-derived human Cadherin-7 Met1-Thr607 Accession # Q9ULB5
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose.

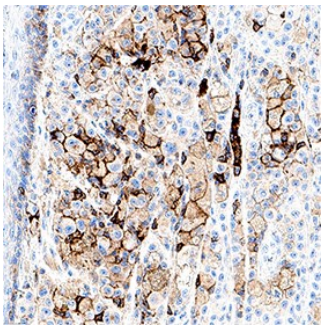
APPLICATIONS

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
Immunohistochemistry	3-25 µg/mL	Immersion fixed paraffin-embedded sections of human melanoma

DATA

Immunohistochemistry



Detection of Cadherin-7 in Human Melanoma. Cadherin-7 was detected in immersion fixed paraffin-embedded sections of human melanoma using Mouse Anti-Human Cadherin-7 Monoclonal Antibody (Catalog # MAB11591) at 5 µg/ml for 1 hour at room temperature followed by incubation with the Anti-Mouse IgG VisUCyte™ HRP Polymer Antibody (Catalog # VC001). Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using VisUCyte Antigen Retrieval Reagent-Basic (Catalog # VCTS021). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to the membrane of tumor cells. View our protocol for IHC Staining with VisUCyte HRP Polymer Detection Reagents.

PREPARATION AND STORAGE

Reconstitution	Reconstitute lyophilized material at 0.2 mg/ml in sterile PBS. For liquid material, refer to CoA for concentration.
Shipping	Lyophilized product is shipped at ambient temperature. Liquid small pack size (-SP) is shipped with polar packs. Upon receipt, store immediately at the temperature recommended below.
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

Cadherin-7 is an approximately 115 kDa type I transmembrane protein belonging to the Cadherin superfamily of calcium-dependent adhesion molecules. Cadherins are involved in multiple processes including embryonic development, cell migration, and maintenance of epithelial integrity (1). Human Cadherin-7 is synthesized with a 27 amino acid (aa) signal peptide and a 20 aa N-terminal propeptide. The mature cell surface-expressed protein consists of a 738 amino acid (aa) extracellular domain (ECD) that contains five Cadherin repeats, a 21 aa transmembrane segment, and a 157 aa cytoplasmic domain (2, 3). Within the ECD, human Cadherin-7 shares 99% and 97% aa sequence identity with mouse and rat Cadherin-7, respectively. Cadherin-7 interacts homotypically and heterotypically with Cadherin-14 and more weakly with Cadherins-6, -9, and -12 (3, 4). Cellular adhesion mediated by Cadherin-7 is more weak than that mediated by E- or N-Cadherin, although it can be strengthed by Fibronectin binding to Integrins on the same cell (5, 6). Cadherin-7 is localized to discrete regions of the developing nervous system. In chick and mouse, it is expressed in the basal plate of the neural tube, migrating cranial motoneurons, and migrating neural crest cells (4, 7, 8), lateral regions of the hindbrain and migrating Purkinje cell precursors (8, 9), striatum, parahippocampal areas, and somatosensory cortex of the forebrain (10 - 12), neural retina and cochlea (13, 14). Cadherin-7 interactions promote motor axon growth and inhibit axonal branching, whereas Cadherin-6B promotes branching during cranial motorneuron development (7). Cadherin-7 performs a similar function during limb bud development during which it participates in the migration and condensation of mesenchymal cells (15). Cadherin-7 is overexpressed on primary melanoma cells where it binds melanoma inhibitory activity (MIA), a secreted melanoma cell protein that promotes tumor progression (16).

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