Human Cadherin-13 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF3264

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Cadherin-13 in direct ELISAs and Western blots. In direct ELISAs, approximately 100% cross-reactivity with recombinant mouse Cadherin-13 is observed, and approximately 80% cross-reactivity with recombinant human (rh) N-Cadherin is observed, and less than 2% cross-reactivity with rhCadherin-8, rhCadherin-11, rhCadherin-17, rhE-Cadherin, rhP-Cadherin, rhVE-Cadherin and rhR-Cadherin is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Cadherin-13 Glu23-Ala692 Accession # P55290
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.

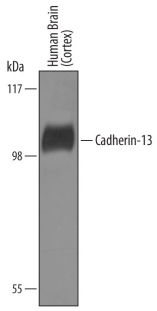
APPLICATIONS

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
Flow Cytometry	2.5 µg/10^6 cells	NCI–H460 human large cell lung carcinoma cell line
Immunocytochemistry	5-15 µg/mL	See Below
Immunohistochemistry	5-15 µg/mL	See Below

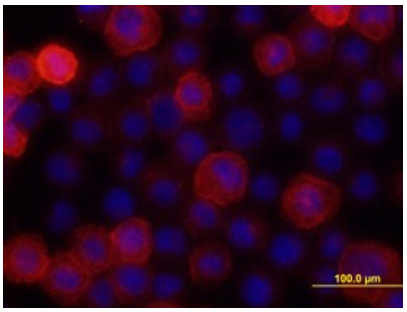
DATA

Western Blot



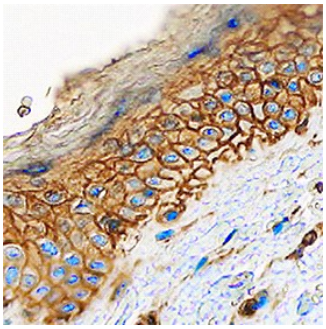
Detection of Human Cadherin-13 by Western Blot. Western blot shows lysates of human brain (cortex) tissue. PVDF Membrane was probed with 1 µg/mL of Goat Anti-Human Cadherin-13 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF3264) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF019). A specific band was detected for Cadherin-13 at approximately 105 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 8.

Immunocytochemistry



Cadherin-13 in NCI-H460 Human Cell Line. Cadherin-13 was detected in immersion fixed NCI-H460 human large cell lung carcinoma cell line using 10 µg/mL Goat Anti-Human Cadherin-13 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF3264) for 3 hours at room temperature. Cells were stained with the NorthernLights™ 557-conjugated Anti-Goat IgG Secondary Antibody (red; Catalog # NL001) and counter-stained with DAPI (blue). View our protocol for Fluorescent ICC Staining of Cells on Coverslips.

Immunohistochemistry



Cadherin-13 in Human Skin. Cadherin-13 was detected in immersion fixed paraffin-embedded sections of human skin using Goat Anti-Human Cadherin-13 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF3264) at 0.1 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). Specific staining was localized to plasma membranes of keratinocytes. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 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

Cadherin-13, also known as T-Cadherin and H-Cadherin, is a 105 kDa member of the cadherin family of transmembrane glycoproteins that mediate calcium-dependent intercellular adhesion (1). However, Cadherin-13 is an atypical member, lacking transmembrane and cytosolic domains and containing a GPI moiety that anchors Cadherin-13 to the plasma membrane (1-2). Human Cadherin-13 is synthesized as a 713 amino acid (aa) precursor that contains a 22 aa signal sequence, a 116 aa propeptide, a 555 aa mature chain, and a second propeptide of 20 aa that is removed in the mature form to reveal the GPI anchor. The mature form contains five cadherin domains and eight potential sites for N-linked glycosylation. Mature human Cadherin-13 shares 96% aa identity with mature mouse Cadherin-13. Cadherin-13 is expressed in various tissues. It is highly expressed in the heart, and in the CNS, Cadherin-13 is expressed in the cerebral cortex, medulla, hippocampus, amygdala, thalamus, and substantia nigra (2). There are higher levels of Cadherin-13 in the adult brain than in developing brain (2). Cadherin-13 is also expressed in skin in the basal layer of the epidermis, lung, liver, kidney, and blood vessels (2). The structural characteristics of Cadherin-13 predict that it is unlikely to function as a true adhesion molecule *in vivo* (2). It is suggested that it may act rather as a signaling receptor participating in recognition of the environment and regulation of cell motility, proliferation, and phenotype (2). Cellular expression levels of Cadherin-13 in various tissues often correlate, negatively or positively, with the proliferative potential of the cells (2). Cadherin-13 may also act as a suppressor of tumor cell growth (2). This potential role for Cadherin-13 was emphasized by localization of Cadherin-13 gene to chromosome 16q24, a region exhibiting loss of heterozygosity in many solid tumors (2). Allelic loss of chromosome bands 16q24.1-q24.2 and reduced expression of Cadherin-13, as well as hypermethylation of the remaining allele have been detected in a considerable number of human cancers (2).

References:

1. Tanihara, H. *et al.* (1994) Cell Adhes. Commun. **2**:15.
2. Philippova, M. *et al.* (2009) Cell. Signal. **21**:1035.