

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human Cadherin-6/KCAD in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant human (rh) Cadherin-8, -11, -12, -13, -17, rhECAD, rhMCAD, rhNCAD, rhRCAD, rhPCAD, or rhVECAD is observed.
<b>Source</b>	Monoclonal Mouse IgG <sub>1</sub> Clone # 427909
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant human Cadherin-6/KCAD Ser54-Ala615 Accession # P55285
<b>Formulation</b>	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.

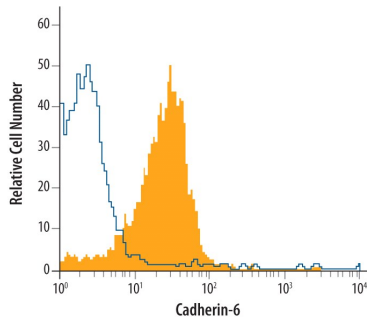
## APPLICATIONS

**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
<b>Western Blot</b>	1 µg/mL	Recombinant Human Cadherin-6/KCAD Fc Chimera (Catalog # 2715-CA)
<b>Flow Cytometry</b>	2.5 µg/10 <sup>6</sup> cells	See Below
<b>Immunocytochemistry</b>	8-25 µg/mL	See Below
<b>CyTOF-ready</b>	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

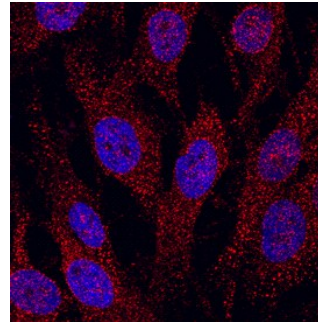
## DATA

### Flow Cytometry



**Detection of Cadherin-6/KCAD in MG-63 Human Cell Line by Flow Cytometry.** MG-63 human osteosarcoma cell line was stained with Mouse Anti-Human Cadherin-6/KCAD Monoclonal Antibody (Catalog # MAB2715, filled histogram) or isotype control antibody (Catalog # MAB002, open histogram), followed by Allophycocyanin-conjugated Anti-Mouse IgG F(ab')<sub>2</sub> Secondary Antibody (Catalog # F0101B). Cells were stained in a buffer containing Ca<sup>2+</sup> and Mg<sup>2+</sup>.

### Immunocytochemistry



**Cadherin-6/KCAD in MG-63 Human Cell Line.** Cadherin-6/KCAD was detected in immersion fixed MG-63 human osteosarcoma cell line using Mouse Anti-Human Cadherin-6/KCAD Monoclonal Antibody (Catalog # MAB2715) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. View our protocol for [Fluorescent ICC Staining of Cells on Coverslips](#).

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.5 mg/mL in sterile PBS.
<b>Shipping</b>	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
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

**BACKGROUND**

The cadherin superfamily is a large family of membrane-associated glycoproteins that engage in homotypic, calcium-dependent, cell-to-cell adhesion events. The superfamily can be divided into at least four subfamilies based on its member's extracellular (EC) regions and cytoplasmic domains (1, 2). These include classical cadherins, desmosomal cadherins, protocadherins, and cadherin-like molecules that contain a variable number of EC and transmembrane (TM) domains (1). Cadherin-6, also known as KCAD or K-cadherin, is a classical cadherin of 110-120 kD that has at least one full length and two alternate splice forms ranging in size from 105-120 kDa (3). Human Cadherin-6 is synthesized as a 790 amino acid (aa) type I transmembrane glycoprotein that contains a 18 aa signal peptide, a 35 aa prosequence, a 562 aa extracellular region, a 21 aa transmembrane segment, and a 154 aa cytoplasmic domain (4, 5). There are five EC cadherin domains that are approximately 110 aa in length. This pattern is consistent with classical cadherin family molecules that are modular in their extracellular region and mediate calcium-dependent cell-to-cell adhesion through their Ca<sup>2+</sup>-binding repeats (2). Due to the absence of a His-Ala-Val motif in its most N-terminal cadherin repeat, Cadherin-6 can be further classified as a type II classical cadherin (4). One Cadherin-6 splice variant (termed 6/2) shows a 9 aa substitution for the 94 aa that span residues 283 to 376 of the full-length extracellular region (3). A second splice variant shows a 36 aa substitution for the C-terminal 163 aa of the transmembrane and cytoplasmic region (6). The extracellular region of human Cadherin-6 is 98% aa identical to rat Cadherin-6 extracellular region, plus 60% and 58% aa identical to the extracellular regions of human cadherin 8 and 11, respectively. Cadherin-6 has high expression in kidney, brain, and cerebellum, and low expression in lung, pancreas, gastric mucosa, and cytotrophoblasts (4, 5, 7, 8, 9). Cadherin-6 is also found in renal, lung, and ovarian carcinoma (7, 10). As a classic cadherin, Cadherin-6 will form homodimers and promote intercellular adhesion with itself and possibly, cadherin-9 and -14 (4, 11).

**References:**

1. Koch, A.W. *et al.* (2004) *Cell. Mol. Life Sci.* **61**:1884.
2. Angst, B.D. *et al.* (2001) *J. Cell Sci.* **114**:629.
3. Mbalaviele, G. *et al.* (1998) *J. Cell Biol.* **141**:1467.
4. Shimoyama, Y. *et al.* (2000) *Biochem. J.* **349**:159.
5. Shimoyama, Y. *et al.* (1995) *Cancer Res.* **55**:2206.
6. GenBank Accession # P55285.
7. Xiang Y.Y. *et al.* (1994) *Cancer Res.* **54**:3034.
8. Marthiens V. *et al.* (2002) *Mol. Cell Neurosci.* **20**:458.
9. MacCalman C.D. *et al.* (1998) *Am J Reprod. Immunol.* **39**:96.
10. Sella, G.C. *et al.* (2001) *Cancer Res.* **61**:6977.
11. Shimoyama, Y. *et al.* (1999) *J. Biol. Chem.* **274**:11987.