

DESCRIPTION

| | |
|---------------------------|--|
| Species Reactivity | Human |
| Specificity | Detects human Cadherin-12 in direct ELISAs and Western blots. In direct ELISAs, less than 5% cross-reactivity with recombinant human (rh) Cadherin-8, rhCadherin-11, rhN-Cadherin, and rhVE-Cadherin is observed and less than 1% cross-reactivity with rhE-Cadherin, rhP-Cadherin, rhCadherin-17, and rhCadherin-4 is observed. |
| Source | Polyclonal Goat IgG |
| Purification | Antigen Affinity-purified |
| Immunogen | <i>S. frugiperda</i> insect ovarian cell line Sf21-derived recombinant human Cadherin-12 Gly55-Pro609 Accession # P55289 |
| 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 |
|---------------------|----------------------------------|--|
| Western Blot | 0.1 µg/mL | Recombinant Human Pro Cadherin-12 Fc Chimera (Catalog # 2240-CA) |

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. |
| Stability & Storage | Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> • 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. |

BACKGROUND

The cadherin superfamily is a large family of membrane-associated glycoproteins that engage in homotypic, calcium-dependent, cell-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-12, also known as brain-cadherin and N-cadherin 2, is a 150 kDa classical cadherin. Classical family molecules are modular in their extracellular region, mediating calcium-dependent cell-cell adhesion through their five EC Ca⁺⁺-binding repeats (2). Cadherin-12 can be further identified as a type II classical cadherin, due to the absence of a His-Ala-Val motif in its most N-terminal cadherin repeat (3). Human Cadherin-12 is synthesized as a 794 amino acid (aa) type I transmembrane preproprotein that contains a 23 aa signal peptide, a 31 aa prosequence, a 555 aa extracellular region, a 28 aa transmembrane segment, and a 157 aa cytoplasmic domain (4, 5). The five EC cadherin domains are approximately 110 aa in length and generate two β-sheets that are oriented like bread in a sandwich. Human Cadherin-12 EC region is 96% aa identical to mouse Cadherin-12 EC region. Cadherin-12 is expressed specifically in CNS neurons. The bulk of its expression is postnatal, and it is proposed to be involved in synaptogenesis (4). As a classic cadherin, Cadherin-12 will form homodimers and promote intercellular adhesion with itself and, possibly, cadherins-8 and -14 (6).

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. Gessner, R. and R. Tauber (2000) *Ann. N.Y. Acad. Sci.* **915**:136.
4. Selig, S. *et al.* (1997) *Proc. Natl. Acad. Sci. USA* **94**:2398.
5. Tanihara, H. *et al.* (1994) *Cell Adhes. Commun.* **2**:15.
6. Shimoyama, Y. *et al.* (2000) *Biochem. J.* **349**:159.