# Recombinant Mouse Cadherin-9 His-tag

Catalog Number: 1456-CA

## DESCRIPTION

**Source**

Human embryonic kidney cell, HEK293-derived mouse Cadherin-9 protein

| Mouse Cadherin-9 (Gly53-Ala614) Accession # P70407 | HPGGGSGGGSGGGS | HHHHHH |
|---|---|---|

N-terminus C-terminus

**N-terminal Sequence Analysis**

Gly53

**Predicted Molecular Mass**

64.4 kDa

## SPECIFICATIONS

**SDS-PAGE**

75-85 kDa, under reducing conditions

**Activity**

Measured by its binding ability in a functional ELISA.
When Recombinant Mouse Cadherin-9 is immobilized at 1 µg/mL, 100 µL/well, Recombinant Human Cadherin-6/KCAD Fc Chimera Recombinant Human Cadherin-6/KCAD Fc Chimera (Catalog # 2715-CA) binds with an $ED_{50}$ of 0.25-1.5 µg/mL.

**Endotoxin Level**

<0.10 EU per 1 µg of the protein by the LAL method.

**Purity**

>90%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.

**Formulation**

Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

## PREPARATION AND STORAGE

**Reconstitution**

Reconstitute at 400 µg/mL in PBS.

**Shipping**

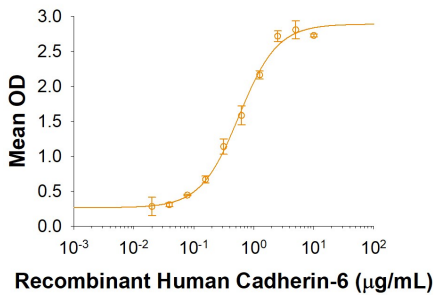
The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

**Stability & Storage**

- 12 months from date of receipt, ≤ -20 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, ≤ -20 °C under sterile conditions after reconstitution.

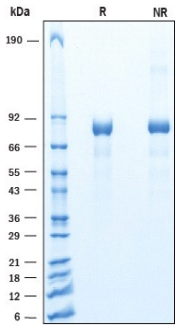
## DATA

**Binding Activity**




When Recombinant Mouse Cadherin 9 is immobilized at 1 µg/mL, 100 µL/well, Recombinant Human Cadherin-6/KCAD Fc Chimera Recombinant Human Cadherin-6/KCAD Fc Chimera (Catalog # 2715-CA) binds with an $ED_{50}$ of 0.25-1.5 µg/mL.

**SDS-PAGE**




2 µg/lane of Recombinant Mouse Cadherin-9 was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 75-85 kDa.



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## BACKGROUND

Cadherin-9 (CDH9) is a member of the larger Cadherin superfamily of cell surface glycoproteins originally identified as proteins mediating cell-cell adhesion (1). In humans, there are more than 100 cadherin members divided into distinct families and numerous sub-families (1-3). Cadherins share a general structural architecture with an extracellular domain (ECD) containing 2 or more extracellular $Ca2^+$ binding cadherin repeat (EC) domains, a single-pass transmembrane section, and a short cytoplasmic tail (1-3). Cadherins function by forming homophilic binding interactions through these EC domains to generate both trans and cis dimers (1-3). Mouse CDH9 is categorized as a classical cadherin, containing 5 EC domains, and the ECD shares 94% and 98% amino acid sequence identity with the ECD of human and rat CDH9, respectively. Cadherin-9 is expressed in human brain and kidney, in the limbic system of rats, and in testes and CD4/CD8-double-positive thymocytes of mice (4, 5). Cadherin-9 interacts with alpha and beta catenins, and also interacts with cadherin-6, 9, and 10 in cell aggregation assay (5). High levels of cadherin-9 is observed during renal fibrosis making cadherin-9 a key marker for fibroblasts in healthy and diseased kidney (4). Cadherin-9 plays a critical role in regulating the formation and differentiation of the hippocampal dentate gyrus (DG)-CA3 mossy fiber synapse (3). Loss of CDH9 expression leads to defects in synapse formation and differentiation of specific neural circuits (5). Additionally, disruption to CDH9 and CDH10 genes has been linked autism spectrum disorders (7, 8). Recently, CDH9 has been reported as a potential suppressor of cancer metastasis (9).

**References:**

1. Gumbiner, B.M. (2005) Nat. Rev. Mol. Cell Biol. **6**:622.
2. Hirano S and Takeichi M. (2012) Physiol Rev. Apr; **92(2)**:597.
3. Nollet *et al.* (2000) J Mol Biol. Jun 9; **299(3)**:551.
4. Thedieck, C. *et al.* (2007) PLoS One. **2(8)**:e657.
5. Williams ME *et al.* (2011) Neuron. Aug. 25; **71(4)**:640.
6. Shimoyama, Y. *et al.* (2000) Biochem. J. **349**:159.
7. Wang K. *et al.* (2009) Nature **459**:528.
8. Inoue YU and, Inoue T. (2016) Sci Rep. **6**:31227.
9. Yan G. *et al.* (2017) Scientific Reports volume **7**:10023.



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