

DESCRIPTION

Source Chinese Hamster Ovary cell line, CHO-derived
Asp35-Arg619 (pro) & Ser60-Arg619 (mature), both with a C-terminal 6-His tag
Accession # Q9HBT6
The two forms are approximately in equal ratio.

N-terminal Sequence Analysis Asp35 (pro) & Ser60 (mature)

Predicted Molecular Mass 65.7 kDa (pro) & 62.8 kDa (mature)

SPECIFICATIONS

SDS-PAGE 85-100 kDa, reducing conditions

Activity Measured by the ability of the immobilized protein to support the adhesion of Neuro-2A mouse neuroblastoma cells.
When 5×10^4 cells per well are added to rhCDH20 coated plates (2.5 $\mu\text{g/mL}$, 100 $\mu\text{L/well}$), approximately 40%-65% will adhere after 1 hour at 37 °C.

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

Purity >90%, by SDS-PAGE under reducing conditions and visualized by silver stain.

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

PREPARATION AND STORAGE

Reconstitution Reconstitute at 300 $\mu\text{g/mL}$ in 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.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Cadherin-20 is an 82 kDa (predicted) type II classical cadherin from the cadherin superfamily and one of three Cadherin 7-like genes located in a cluster on chromosome 18 (1, 4). Cadherins are calcium-dependent intercellular glycoproteins containing five extracellular cadherin repeats of about 110 amino acids (aa) with typical conserved sequences (1 - 2). The extracellular cadherin domains bind Ca^{2+} in order for correct protein folding and normal functioning to take place (1). Human Cadherin-20 is synthesized as a precursor that contains a 34 aa signal sequence, a 25 aa propeptide, a 560 aa extracellular domain (ECD), a 21 aa transmembrane segment, and a 161 aa cytoplasmic region (SwissProt # Q9HBT6). The ECD contains five cadherin domains, two calcium-binding sites, and four potential sites for N-linked glycosylation. Mature human Cadherin-20 is 98% and 97% aa identical to mature mouse and rat Cadherin-20, respectively. Cadherin-20 is expressed in placenta, adult brain, and fetal brain (1). In mice, during embryogenesis, Cadherin-20 was found to be synthesized by the forebrain, anterior neural ridge, developing visual system, primitive external granular layer of the cerebellum and a subset of neural crest cells likely to develop into melanoblasts (3). Cadherin-20 is a cell adhesion protein that preferentially interacts with itself in a homophilic manner in connecting cells (1). It thus may contribute to the sorting of heterogeneous cell types (3). In addition, since disturbance of cellular adhesion is a prerequisite for invasion and metastasis of tumor cells, cadherins are considered prime candidates for tumor suppressor genes (1).

References:

1. Kools, P. *et al.* (2000) *Genomics* **68**:283.
2. Blaschuck, O.W. *et al.* (1990) *J. Mol. Biol.* **211**:679.
3. Moore, R. *et al.* (2004) *Oncogene* **23**:6726.
4. Takahashi, M. *et al.* (2008) *BMC Dev. Biol.* **8**:87.