Data Sheet (Cat.No.TMPY-03692)

TargetMol

N Cadherin Protein, Human, Recombinant (His & hFc)

General Information

Synonyms:	cadherin 2, type 1, N-cadherin (neuronal);CDw325;CD325;NCAD;CDHN
Protein Construction:	A DNA sequence encoding the human CDH2 (NP_001783.2) (Met 1-Ala 724) was fused with the C-terminal polyhistidine-tagged Fc region of human IgG1 at the C-terminus. Predicted N terminal: Asp 160
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P19022
Molecular Weight:	35.2 kDa (predicted); 114 and 119 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 70 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing a 0.2 μm filtered solution in Tris and NaCl, pH 7.4, with Tween, Glycerol, and trehalose as protectants. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Cadherins are calcium-dependent cell adhesion proteins, and they preferentially interact with themselves in a homophilic manner in connecting cells. Cadherin 2 (CDH2), also known as N-Cadherin (neuronal) (NCAD), is a single-pass transmembrane protein and a cadherin containing 5 cadherin domains. N-Cadherin displays a

ubiquitous expression pattern but with different expression levels between endocrine cell types. CDH2 (NCAD) has been shown to play an essential role in normal neuronal development, which is implicated in an array of processes including neuronal differentiation and migration, and axon growth and fasciculation. In addition, N-Cadherin expression was upregulated in human HSC during activation in culture, and function or expression blocking of N-Cadherin promoted apoptosis. During apoptosis, N-Cadherin was cleaved into 20-100 kDa fragments. It may provide a novel target for therapies that are directed toward intimal proliferative disorders, including restenosis and vascular bypass graft failure. N-Cadherin is associated with tumor aggressiveness and metastatic potential and may contribute to tumor progression.

Reference

Jones M, et al. (2002) N-cadherin upregulation and function in response of smooth muscle cells to arterial injury. Arterioscler Thromb Vasc Biol. 22(12): 1972-7.

Nagi C, et al. (2005) N-cadherin expression in breast cancer: correlation with an aggressive histologic variant--invasive micropapillary carcinoma. Breast Cancer Res Treat. 94(3): 225-35.

Schrick C, et al. (2007) N-cadherin regulates cytoskeletally associated IQGAP1/ERK signaling and memory formation. Neuron. 55(5): 786-98.

Li K, et al. (2010) Downregulation of N-cadherin expression inhibits invasiveness, arrests cell cycle and induces cell apoptosis in esophageal squamous cell carcinoma. Cancer Invest. 28(5): 479-86.