Data Sheet (Cat.No.TMPY-03762)

TargetMol

E-Cadherin/Cadherin-1 Protein, Human, Recombinant (hFc)

General Information

Synonyms:	cadherin 1, type 1, E-cadherin (epithelial);Arc-1;E-Cadherin;UVO;CDHE;CD324;ECAD;CDH1;E-cad;LCAM
Protein Construction:	A DNA sequence encoding the human E-Cad (P12830-1) (Met1-Ile707) was expressed with the Fc region of human IgG1 at the C-terminus. Predicted N terminal: Gln 23 & Asp 155
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P12830-1
Molecular Weight:	87.1 kDa (predicted); 116-126 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Measured by the ability of the immobilized protein to support the adhesion of MCF-7 human breast adenocarcinoma cells. When cells are added to E-Cad coated plates (5 μg/mL, 100 μL/well), > 30% will adhere specifically after 90 minutes at 37 ℃.
Purity:	> 90 % 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 PBS, pH 7.4. 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:

Reconstituted with sterile deionized water to 0.25 mg/mL. Reconstitution conditions may vary depending on the lot.

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 which preferentially interact with themselves in a homophilic manner in connecting cells, and thus may contribute to the sorting of heterogeneous cell type. E-cadherin (E-Cad), also known as CDH1 and CD324, is a calcium-dependent cell adhesion molecule the intact

function of which is crucial for the establishment and maintenance of epithelial tissue polarity and structural integrity. Mutations in CDH1 occur in diffuse type gastric cancer, lobular breast cancer, and endometrial cancer. In human cancers, partial or complete loss of E-cadherin expression correlates with malignancy. During apoptosis or with calcium influx, E-Cad is cleaved by the metalloproteinase to produce fragments of about 38 kDa (E-CAD/CTF1), 33 kDa (E-CAD/CTF2) and 29 kDa (E-CAD/CTF3), respectively. E-Cad has been identified as a potent invasive suppressor, as downregulation of E-cadherin expression is involved in dysfunction of the cell-cell adhesion system, and often correlates with strong invasive potential and poor prognosis of human carcinomas.

Reference

Wang HD,et al.(2004) CDH1 germline mutation in hereditary gastric carcinoma. World J Gastroenterol. 10(21): 3088-93.

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Mrgineanu E,et al.(2008) Correlation between E-cadherin abnormal expressions in different types of cancer and the process of metastasis. Rev Med Chir Soc Med Nat Iasi. 112(2): 432-6.

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