

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived			
	Human E-Cadherin (Asp155-Ile707) Accession # NP_004351	IEGRMD	Human IgG ₁ (Pro100-Lys330)	6-His tag
	N-terminus			C-terminus

**N-terminal Sequence Asp155
Analysis**

Predicted Molecular Mass 87.7 kDa (monomer)

SPECIFICATIONS

SDS-PAGE	120 kDa, reducing conditions
Activity	Measured by the ability of the immobilized protein to support the adhesion of the MCF-7 human breast cancer cells. When 5 x 10 ⁴ cells/well are added to Recombinant Human E-Cadherin Fc Chimera coated plates (1.5 µg/mL with 100 µL/well), >60% cells will adhere after 90 minutes at 37 °C. Optimal concentration depends on cell type as well as the application or research objectives.
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 Tris-Citrate, NaCl and CaCl ₂ . See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 µg/mL in sterile DPBS with Ca ²⁺ and Mg ²⁺ .
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. 3 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

E-Cadherin/Cadherin-1, also known as Uvomorulin in the mouse and rat, is a 120 kDa member of the Cadherin family of cell surface glycoproteins that mediate cell adhesion (1). Human E-Cadherin shares 81% amino acid sequence identity with the rat and mouse proteins (2). It is a single-pass transmembrane protein that mediates calcium-dependent epithelial cell adhesion. E-Cadherin has five extracellular EC domains that form homophilic cis-clusters between adjacent epithelial cells and trans-clusters within the same cell. E-Cadherin clusters are critical components of adherens junctions between epithelial cells and act in the formation and maintenance of the epithelial cell barrier (3, 4). The intracellular domain of E-Cadherin binds to the Catenin cytoskeletal complex, which includes p120 Catenin, beta-Catenin, alpha-Catenin, and Vinculin. E-Cadherin expression is critical for epithelial tissue homeostasis. Decreased E-Cadherin is associated with physiological and pathological epithelial-to-mesenchymal transition and cell migration, and E-Cadherin loss contributes to cancer metastasis (5). The extracellular E-Cadherin N-terminal domain can be cleaved by several proteases and is released as a soluble factor that enhances cancer cell motility and EGFR-dependent survival and proliferation (6).

References:

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2. Bussemakers, M.J. et al. (1993) *Mol. Biol. Rep.* **17**:123.
3. Guillot, C. and T. Lecuit (2013) *Science* **340**:1185.
4. Tian, X. et al. (2011) *J. Biomed. Biotechnol.* **2011**:567305.
5. Stemmler, M.P. (2008) *Mol. Biosyst.* **4**:835.
6. David, J.M. and A.K. Rajasekaran (2012) *Cancer Res.* **72**:2917.