Product Information

E-Cadherin /Fc Chimera human
recombinant, expressed in mouse NSO cells

Catalog Number E2278
Storage Temperature -20 °C

Synonyms: ECAD, Cell-CAM120/80, Uvomorulin, Arc-1, L-CAM

Product Description
A cDNA sequence encoding the extracellular domain of human pre-pro E-cadherin (amino acid residues 1-707)\(^1\) fused by means of a polypeptide linker to the Fc region of human IgG1 that is 6X histidine-tagged at the C-terminus was expressed in NS0 cells. The recombinant protein is a disulfide-linked homodimer. Based on N-terminal sequencing, the protein starts at Asp\(^{155}\). The calculated molecular mass of the reduced monomer is ~87.7 kDa, but as a result of glycosylation, it migrates as an ~120 kDa protein on reducing SDS-PAGE.

E-cadherin is a type 1 membrane protein. It is a member of the large family of cadherins – calcium dependent cell adhesion proteins. These proteins are involved in many morphoregulatory processes including the establishment of tissue boundaries, tissue rearrangement, cell differentiation, and metastasis.\(^2\)

Cadherins typically consist of a large extracellular domain containing DXD and DXNDN repeats responsible for calcium-dependent adhesion, a single-pass transmembrane domain, and a highly conserved, short C-terminal cytoplasmic domain responsible for interacting with catenins.\(^2,3,4\) E-cadherins contain five extracellular calcium-binding domains, each of ~110 amino acids. The extracellular domain of E-cadherin tends to bind in a homophilic manner, however, heterophilic binding occurs under certain conditions. The binding of extracellular cadherin is the basis for cell-cell adhesion and tends to be prevalent at adherin junctions and are structurally associated with actin bundles.\(^3\) The disassembly of adherens junction is dependent on the internalization of E-cadherin via vesicle transport into the cytoplasm.\(^5\) The N-cadherin/Fc chimera has been shown to retain structural and functional properties of the cadherins.\(^6\)

Reagent
Supplied as a lyophilized powder from a 0.2 μm filtered solution in 50mM Tris-Citrate, 250mM NaCl, and 2mM CaCl\(_2\) pH 6.5.

Precautions and Disclaimer
This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions
Reconstitute to a concentration of 100 μg/ml or greater with sterile DPBS containing Ca\(^{2+}\) and Mg\(^{2+}\).

Storage/Stability
Stable for at least one year at −20 °C. Upon reconstitution, store at 2-8 °C for up to one month or at −20 °C for up to three months. Avoid repeated freeze-thaw cycles. Do not store in a frost-free freezer.

Product Profile
The typical concentration of E-Cadherin/Fc Chimera which supports the adhesion of human breast adenocarcinoma (MCF-7) cells to the immobilized protein is 1.5 μg/ml at 100 μL/well on a 96 well plate. Optimal concentration will need to be determined for each application.

Purity: ≥90% (SDS-PAGE, visualized by silver staining).

Endotoxin level: < 1.0 EU per 1μg of protein by the LAL (Limulus amebocyte lysate) method.

References

