Recombinant Human VE-Cadherin

Catalog Number: 8440-VC

DESCRIPTION

Source	Human embryonic kidney cell, HEK293-derived Asp48-Gln599, with a C-terminal 6-His tag Accession # CAA56306
N-terminal Sequence Analysis	Asp48
Structure / Form	Non-covalent dimer
Predicted Molecular Mass	63 kDa

SPECIFICATIONS

SDS-PAGE	80-94 kDa, reducing conditions
Activity	Measured by the ability of the immobilized protein to support the adhesion of BCE C/D-1b bovine corneal endothelial cells. The ED_{50} for this effect is typically 20-100 ng/mL. **Optimal dilutions should be determined by each laboratory for each application.**
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE with silver staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 250 µg/mL in sterile 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

VE-Cadherin, also known as Cadherin-5 and CD144, is a member of the atypical/type II subgroup of Cadherin homophilic adhesion proteins (1). Mature human VE-Cadherin is a 125-135 kDa transmembrane glycoprotein that consistis of a 552 amino acid (aa) extracellular domain (ECD) with five Ca^{++}-binding Cadherin domains, a 21 aa transmembrane segment, and a 164 aa cytoplasmic domain (2, 3). Within the ECD, human VE-Cadherin shares approximately 75% aa sequence identity with mouse and rat VE-Cadherin. A 90 kDa portion of the VE-Cadherin ECD can be shed in a metalloproteinase-dependent mechanism and may function as a VE-Cadherin antagonist (4, 5). VE-Cadherin is expressed on the surface of vascular endothelial cells (EC) from early in embryogenesis through adulthood as well as in the placenta, on hematopoietic cell progenitors, and on a subpopulation of hematopoietic stem cells (6-8). It is a major protein component of adherens junctions between cells of the endothelium (9). VE-Cadherin supports the extension and stabilization of existing vascular sprouts (10). VE-Cadherin also regulates or is regulated by VEGF R2, type I and type II TGF-β receptors, and other endothelial junction proteins such as JAM-C, Claudin-5, and N-Cadherin (11-15). Elevated levels of soluble VE-Cadherin are found in the serum of myocardial infarction, angina pectoris, rheumatoid arthritis, and colorectal cancer patients (16-18).

References:

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