

VE-Cadherin Protein, Rat, Recombinant (His)

General Information

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| Synonyms: | cadherin 5, type 2 (vascular endothelium) |
| Protein Construction: | A DNA sequence encoding the rat CDH5 (NP_001100877.1) (Met1-Gln585) was expressed with a polyhistidine tag at the C-terminus. Predicted N terminal: Gly 25 |
| Species: | Rat |
| Expression Host: | HEK293 Cells |
| Accession: | A6JXX3 |
| Molecular Weight: | 65.1 kDa (predicted); 91 kDa (reducing condition, due to glycosylation) |

QC Testing

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| 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 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:
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 (Calcium dependent adhesion molecules) are a class of transmembrane proteins. Cadherin-5, also known as VE-cadherin, CDH5 and CD144, an endothelial specific cell-cell adhesion molecule, plays a pivotal role in the formation, maturation and remodeling of the vascular wall. VE-Cadherin is widely considered to be specific for vascular endothelia in which it is either the sole or the predominant cadherin, often co-existing with N-cadherin. This specificity of VE-cadherin for vascular endothelial cells is important not only in blood and lymph

vessel biology and medicine, but also for cell-type-based diagnoses, notably those of metastatic tumors. As a classical cadherin, VE-Cadherin links endothelial cells together by homophilic interactions mediated by its extracellular part and associates intracellularly with the actin cytoskeleton via catenins. Mechanisms that regulate VE-cadherin-mediated adhesion are important for the control of vascular permeability and leukocyte extravasation. In addition to its adhesive functions, VE-Cadherin regulates various cellular processes such as cell proliferation and apoptosis and modulates vascular endothelial growth factor receptor functions. Consequently, VE-cadherin is essential during embryonic angiogenesis.

Reference

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Vestweber D, et al. (2009) Cell adhesion dynamics at endothelial junctions: VE-cadherin as a major player. *Trends Cell Biol.* 19(1): 8-15.

Boda-Heggemann J, et al. (2009) Beyond vessels: occurrence and regional clustering of vascular endothelial (VE-)cadherin-containing junctions in non-endothelial cells. *Cell Tissue Res.* 335(1): 49-65.

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