

## CD31/PECAM-1 Protein, Human, Recombinant (hFc)

### General Information

|                       |   |
|-----------------------|---|
| Synonyms:             | GPIIA'; PECA1; CD31/EndoCAM; CD31; PECAM-1; platelet/endothelial cell adhesion molecule 1; endoCAM  |
| Protein Construction: | A DNA sequence encoding the extracellular domain (Met 1-Lys 601) of human CD31 (EAW94208.1) was expressed with the fused Fc region of human IgG1 at the C-terminus.<br>Predicted N terminal: Gln 28 |
| Species:              | Human   |
| Expression Host:      | HEK293 Cells  |
| Accession:            | EAW94208.1  |
| Molecular Weight:     | 91.2 kDa (predicted); 130-140 kDa (reducing condition, due to glycosylation)  |

### QC Testing

|                      |   |
|----------------------|---|
| Biological Activity: | Measured by the ability of the immobilized protein to support the adhesion of Jurkat human acute T cell leukemia cells. When $8 \times 10^4$ cells/well are added to sCD31-Fc coated plates (5 $\mu\text{g}/\text{mL}$ and 100 $\mu\text{L}/\text{well}$ ) in the presence of 10 $\mu\text{g}/\text{ml}$ PHA approximately >60% will adhere after 30 minutes at 37°C. |
| Purity:              | > 90 % as determined by SDS-PAGE  |
| Endotoxin:           | < 1.0 EU/ $\mu\text{g}$ of the protein as determined by the LAL method.   |
| Formulation:         | Lyophilized from a solution filtered through a 0.22 $\mu\text{m}$ filter, containing 100 mM Glycine, 10 mM NaCl, 50 mM Tris, pH 7.5. 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

The Cluster of Differentiation 31 (CD31) adhesion molecule, also known as platelet-endothelial cell adhesion

molecule-1 (PECAM-1), is the only known member of the CAM family on platelets. CD31 protein is a 130-kDa transmembrane glycoprotein expressed by endothelial cells, platelets, monocytes, neutrophils, and certain T cell subsets. CD31 protein is also expressed in certain tumors, including epithelioid hemangioendothelioma, other vascular tumors, and histiocytic malignancies. CD31 plays a key role in removing aged neutrophils and tissue regeneration. CD31 protein mediates the homotypic or heterotypic cell adhesion by binding to itself or the leukocyte integrin  $\alpha\beta 3$ , and thus plays a role in neutrophil recruitment in inflammatory responses, transendothelial migration of leukocytes, as well as in cardiovascular development.

### Reference

- Deaglio S, et al. (2000) CD38/CD31, a receptor/ligand system ruling adhesion and signaling in human leukocytes. *Chem Immunol.* 75: 99-120.
- Kohler S, et al. (2009) Life after the thymus: CD31+ and CD31- human naive CD4+ T-cell subsets. *Blood.* 113(4): 769-74.

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