



## Product Information Sheet

### Soluble Human PECAM-1/CD31 ELISA Kit

**Catalog No.** EK0883

**Size** 96T

**Range** 156pg/ml-10000pg/ml

**Sensitivity** < 10pg/ml

#### **Specificity**

No detectable cross-reactivity with any other cytokine.

#### **Storage**

Store at 4°C for frequent use, at -20°C for infrequent use.

Avoid multiple freeze-thaw cycles  
(Shipped with wet ice.)

#### **Expiration**

Four months at 4°C and eight months at -20°C.

#### **Application**

For quantitative detection of human PECAM-1 in sera, plasma, body fluids, tissue lysates or cell culture supernates.

#### **Principle**

Human PECAM-1 ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. Human PECAM-1-specific polyclonal antibodies were precoated onto 96-well plates. The human specific detection polyclonal antibodies were biotinylated. The test samples and biotinylated detection antibodies were added to the wells subsequently and then followed by washing with PBS or TBS buffer. Avidin-Biotin-Peroxidase Complex was added and unbound conjugates were washed away with PBS or TBS buffer. HRP substrate TMB was used to visualize HRP enzymatic reaction. TMB was catalyzed by HRP to produce a blue color product that changed into yellow after adding acidic stop solution. The density of yellow is proportional to the human PECAM-1 amount of sample captured in plate.

#### **Kit Components**

1. Lyophilized recombinant human PECAM-1 standard: 10ng/tube×2.
2. One 96-well plate precoated with anti-human PECAM-1 antibody.
3. Sample diluent buffer: 30 ml
4. Biotinylated anti-human PECAM-1 antibody: 130μl, dilution 1:100.
5. Antibody diluent buffer: 12ml.
6. Avidin-Biotin-Peroxidase Complex (ABC): 130μl, dilution 1:100.
7. ABC diluent buffer: 12ml.
8. TMB color developing agent: 10ml.
9. TMB stop solution: 10ml.

#### **Material Required But Not Provided**

1. Microplate reader in standard size.
2. Automated plate washer.
3. Adjustable pipettes and pipette tips. Multichannel pipettes are recommended in the condition of large amount of samples in the detection.
4. Clean tubes and Eppendorf tubes.
5. Washing buffer (neutral PBS or TBS).

Preparation of 0.01M **TBS**: Add 1.2g Tris, 8.5g NaCl; 450μl of purified acetic acid or 700μl of concentrated hydrochloric acid to 1000ml H<sub>2</sub>O and adjust pH to 7.2-7.6. Finally, adjust the total volume to 1L.

Preparation of 0.01 M **PBS**: Add 8.5g sodium chloride, 1.4g Na<sub>2</sub>HPO<sub>4</sub> and 0.2g NaH<sub>2</sub>PO<sub>4</sub> to 1000ml distilled water and adjust pH to 7.2-7.6.

#### **To reorder contact us at:**

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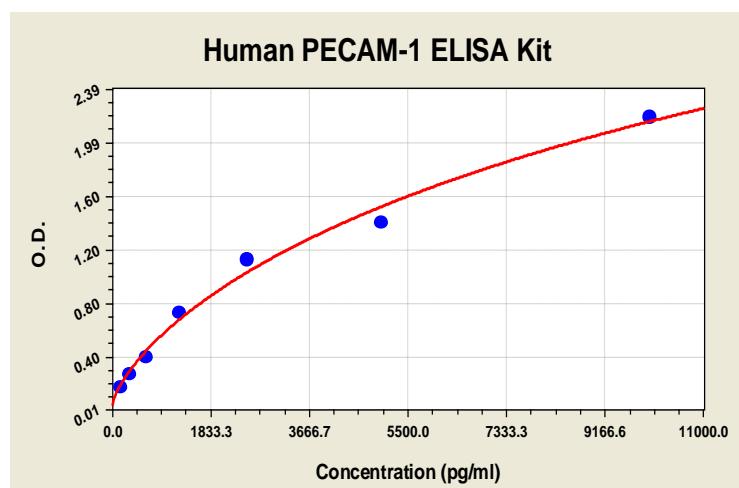
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Finally, adjust the total volume  
to 1L.

## Notice for Application of Kit

1. Before using Kit, spin tubes and bring down all components to bottom of tube.
2. Duplicate well assay was recommended for both standard and sample testing.
3. Don't let 96-well plate dry, dry plate will inactivate active components on plate.
4. In order to avoid marginal effect of plate incubation due to temperature difference (reaction may be stronger in the marginal wells), it is suggested that the diluted ABC and TMB solution will be pre-warmed in 37°C for 30 min before using.

## Soluble Human PECAM-1 ELISA Kit-1X96 Well Plate Image



## Background

Human platelet/endothelial cell adhesion molecule-1 (PECAM1), an important member of the immunoglobulin gene superfamily, is widely distributed on cells of the vascular system and mediates cellular interactions through both homophilic and heterophilic adhesive mechanisms. The function of PECAM1 in vitro has begun to be understood, but its function in vivo is yet to be established.<sup>1</sup> The PECAM1 locus is on the long arm of chromosome 17, in the region q23-qter. To confirm this observation and obtain a more precise localization of the PECAM1 locus, fluorescence in situ hybridization was conducted. Together our data allowed assignment of the PECAM1 locus to the region 17q23.<sup>2</sup> To examine the functional role of PECAM-1 in regulating platelet-collagen interactions, 2 different approaches were applied using recombinant human PECAM-1-immunoglobulin chimeras and platelets derived from PECAM-1-deficient mice.<sup>3</sup> PECAM-1, an integral membrane protein with an essential role in TEM, is found in this compartment and constitutively recycles evenly along endothelial cell borders.<sup>4</sup> The standard used in this kit is the product of gene recombinant expression (extracellular part), consisting of 574 amino acids (Q28-K601) with the molecular weight of 64.5KDa. After glycosylating, its molecular weight changes to 90-100KDa.

## Reference

1. Xie, Y., Muller, W. A. Fluorescence in situ hybridization mapping of the mouse platelet endothelial cell adhesion molecule-1 (PECAM1) to mouse chromosome 6, region F3-G1. Genomics 37: 226-228, 1996.
2. Gumina, R. J., Kirschbaum, N. E., Rao, P. N., vanTuinen, P., Newman, P. J. The human PECAM1 gene maps to 17q23. Genomics 34: 229-232, 1996.
3. Jones, K. L., Hughan, S. C., Dopheide, S. M., Farndale, R. W., Jackson, S. P., Jackson, D. E. Platelet endothelial cell adhesion molecule-1 is a negative regulator of platelet-collagen interactions. Blood 98: 1456-1463, 2001.
4. Mamdouh, Z., Chen, X., Pierini, L. M., Maxfield, F. R., Muller, W. A. Targeted recycling of PECAM from endothelial surface-connected compartments during diapedesis. Nature 421: 748-753, 2003.