

## P-Selectin Protein, Rat, Recombinant (hFc)

### General Information

Synonyms:	selectin P (granule membrane protein 140kDa, antigen CD62)
Protein Construction:	A DNA sequence encoding the rat Selp (AAI01920.1) (Met1-Gln700) was expressed with the Fc region of human IgG1 at the C-terminus. Predicted N terminal: Trp 42
Species:	Rat
Expression Host:	HEK293 Cells
Accession:	Q3MID1
Molecular Weight:	98.7 kDa (predicted)

### QC Testing

Biological Activity:	Measured by the ability of the immobilized protein to support the adhesion of U937 human histiocytic lymphoma cells. When $5 \times 10^4$ cells/well are added to rat SELP/Fc Chimera coated plates (10 $\mu\text{g/mL}$ with 100 $\mu\text{L/well}$ ), > 40% cells will adhere after 1 hour at 37°C.
Purity:	> 95 % 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 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  $-20^\circ\text{C}$  to  $-80^\circ\text{C}$  for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at  $-80^\circ\text{C}$ . For reconstituted protein solutions, the solution can be stored at  $-20^\circ\text{C}$  to  $-80^\circ\text{C}$  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

P selectin (SELP) is a 140kDa protein that is stored in the alpha-granules of platelets and Weibel-Palade bodies of endothelial cells. SELP mediates rapid rolling of leukocyte rolling over vascular surfaces during the initial steps in inflammation through interaction with PSGL1. P selectin is a cell adhesion molecule on the surface of activated endothelial cells. Cellular adhesion molecules are a large family of proteins that attach the cytoskeleton and

intracellular signaling cascades with the extracellular environment. SELP is a calcium-dependent receptor for myeloid cells that binds to sialylated forms of Lewis blood group carbohydrate antigens on neutrophils and monocytes. This protein redistributes to the plasma membrane during platelet activation and degranulation and mediates the interaction of activated endothelial cells or platelets with leukocytes.

### Reference

- Johnson-Tidey RR, et al. (1994) Increase in the adhesion molecule P-selectin in endothelium overlying atherosclerotic plaques. Coexpression with intercellular adhesion molecule-1. *J Pathol.* 144(5):952-61.
- Walcheck B, et al. (1996) Neutrophil-neutrophil interactions under hydrodynamic shear stress involve L-selectin and PSGL-1: a mechanism that amplifies initial leukocyte accumulation of P-selectin in vitro. *J Clin Invest.* 98(5):1081-7.
- Foreman KE, et al. (1994) C5a-induced expression of P-selectin in endothelial cells. *J Clin Invest.* 94(3):1147-55.

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