# Data Sheet (Cat.No.TMPY-03729)

## E-Selectin/CD62E Protein, Rat, Recombinant (hFc)

### General Information

Synonyms: selectin E

Protein Construction: A DNA sequence encoding the rat SELE (NP_620234.1) (Met1-Pro494) was expressed with the Fc region of human IgG1 at the C-terminus. Predicted N terminal: Trp 22

Species: Rat

Expression Host: HEK293 Cells

Accession: P98105

Molecular Weight: 78.8 kDa (predicted); 114-119 kDa (reducing conditions)

### QC Testing

Biological Activity: Measured by the ability of the immobilized protein to support the adhesion of U937 cells. When 5 x 10E4 cells/well are added to SELE-coated plates (2 μg/mL and 100 μL/well), approximately >85% cells will adhere specifically after 60 minutes at 37℃.

Purity: > 95 % 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℃ to -80℃ 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℃. For reconstituted protein solutions, the solution can be stored at -20℃ to -80℃ 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

E-selectin, also known as endothelial leukocyte adhesion molecule-1 (ELAM-1) and CD62E, is an inducible adhesion molecule that is expressed on the surfaces of stimulated vascular endothelial cells and is sometimes involved in cancer cell metastasis. E-selectin exhibits a complex mosaic structure consisting of a large extracellular region comprised of a lectin domain, an EGF-like domain, and a short consensus repeat (SCR) domain, followed by

a transmembrane region and a relatively short (32 aa) cytoplasmic tail. As a member of the LEC-CAM or selectin family, E-selectin recognises and binds to sialylated carbohydrates including members of the Lewis X and Lewis A families found on monocytes, granulocytes, and T-lymphocytes. E-selectin supports rolling and stable arrest of leukocytes on activated vascular endothelium, and furthermore, it was indicated that it can also transduce an activating stimulus via the MAPK cascade into the endothelial cell during leukocyte adhesion. E-selectin regulates adhesive interactions between certain blood cells and endothelium. The soluble form of E selectin (sE-selectin) is a marker of endothelial activation, and has a potential role in the pathogenesis of cardiovascular disease as raised levels have been found in hypertension, diabetes and hyperlipidemia, although its association in established atherosclerosis disease and its value as a prognostic factor is more controversial. soluble E-selectin is inversely associated with the muscular component of the left ventricle, thereby suggesting that the lack of such a reparative factor may be associated with cardiac remodeling in end-stage renal disease (ESRD) patients. Besides, this adhesion molecule appears to be involved in the pathogenesis of atherosclerosis.

Reference

Roldn V,et al.(2003) Soluble E-selectin in cardiovascular disease and its risk factors. A review of the literature. Thromb Haemost. 90(6): 1007-20.

Kawase J,et al.(2009) Increase in E-selectin expression in umbilical vein endothelial cells by anticancer drugs and inhibition by cimetidine. Oncol Rep. 22(6): 1293-7.

Matsumoto K,et al.(2010) Soluble adhesion molecule E-selectin predicts cardiovascular events in Japanese patients with type 2 diabetes mellitus. Metabolism. 59(3): 320-4.

Stancanelli B,et al.(2010) Soluble e-selectin is an inverse and independent predictor of left ventricular wall thickness in end-stage renal disease patients. Nephron Clin Pract. 114(1): c74-80.