PRODUCT INFORMATION

E-Selectin/CD62E Extracellular Domain (human, recombinant)

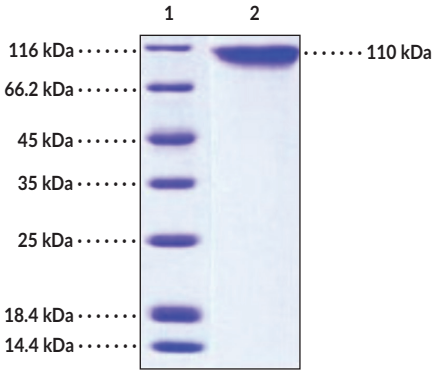
Item No. 35725

Overview and Properties

Synonyms:	CD62 Antigen-like Family Member E, ELAM1, Endothelial Leukocyte Adhesion Molecule 1, LECAM2, Leukocyte-endothelial Cell Adhesion Molecule 2
Source:	Recombinant human C-terminal His-tagged E-selectin expressed in HEK293 cells
Amino Acids:	22-556
Uniprot No.:	P16581
Molecular Weight:	60 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥97% estimated by SDS-PAGE
Supplied in:	Lyophilized from sterile PBS, pH 7.4
Endotoxin Testing:	<1.0 EU/µg, determined by the LAL endotoxin assay

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



Lane 1: MW Markers
Lane 2: E-Selectin Extracellular Domain

SDS-PAGE Analysis of E-Selectin Extracellular Domain. This protein has a calculated molecular weight of 60 kDa. It has an apparent molecular weight of approximately 110 kDa by SDS-PAGE under reducing conditions due to glycosylation.

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM

PRODUCT INFORMATION

Description

E-Selectin, also known as CD62E, is a glycoprotein encoded by the *SELE* gene in humans that has roles as a cellular adhesion molecule.[1,2] It is composed of an N-terminal C-type lectin-like domain, which recognizes carbohydrate ligands, an EGF-like domain, multiple short consensus repeats (SCRs), a transmembrane region, and a C-terminal cytoplasmic tail.[2,3] E-Selectin is constitutively expressed in bone marrow endothelial cells, where it has a role in maintaining the stem cell niche, and its expression is induced in vascular endothelial cells by inflammatory stimuli, such as TNF-α, IL-1β, or LPS.[1,2] It also exists as a soluble form that is shed from the cell surface *via* proteolytic cleavage.[4] E-selectin recognizes and binds to a variety of glycoproteins and glycolipids expressed by leukocytes, hematopoietic cells, or cancer cells, including L-selectin, sialyl Lewis X (sLe^X), and E-selectin ligand-1 (ESL-1), as well as CD44 and CD43E.[5] Binding of E-selectin to its ligands facilitates the tethering and rolling of infiltrating cells on endothelial cells and promotes their extravasation into inflamed tissues.[2] *Sele*$^{-/-}$ mice exhibit reduced infiltration of metastatic cancer cells to the lung, and serum soluble E-selectin levels are elevated in patients with a variety of conditions, including atherosclerosis, type 1- and type 2 diabetes, sepsis, and multiple sclerosis.[6-9] Cayman's E-Selectin/CD62E Extracellular Domain (human, recombinant) protein consists of 546 amino acids, has a calculated molecular weight of 60 kDa, and a predicted N-terminus of Trp22 after signal peptide cleavage. By SDS-PAGE, under reducing conditions, the apparent molecular mass of the protein is 110 kDa due to glycosylation.

References

1. Silva, M., Videira, P.A., and Sackstein, R. E-selectin ligands in the human mononuclear phagocyte system: Implications for infection, inflammation, and immunotherapy. *Front. Immunol.* **8**, 1878 (2018).
2. Tvaroška, I., Selvaraj, C., and Koča, J. Selectins-The two Dr. Jekyll and Mr. Hyde faces of adhesion molecules-A review. *Molecules* **25(12)**, 2835 (2020).
3. Aleisa, F.A., Sakashita, K., Lee, J.M., *et al*. Functional binding of E-selectin to its ligands is enhanced by structural features beyond its lectin domain. *J. Biol. Chem.* **295(11)**, 3719-3733 (2020).
4. DeLisser, H.M., Christofidou-Solomidou, M., Sun, J., *et al*. Loss of endothelial surface expression of E-selectin in a patient with recurrent infections. *Blood* **94(3)**, 884-894 (1999).
5. Barthel, S.R., Gavino, J.D., Descheny, L., *et al*. Targeting selectins and selectin ligands in inflammation and cancer. *Expert Opin. Ther. Targets* **11(11)**, 1473-1491 (2007).
6. Hiratsuka, S., Goel, S., Kamoun, W.S., *et al*. Endothelial focal adhesion kinase mediates cancer cell homing to discrete regions of the lungs via E-selectin up-regulation. *Proc. Natl. Acad. Sci. USA* **108(9)**, 3725-3730 (2011).
7. Paterson, A.D., Lopes-Virella, M.F., Waggott, D., *et al*. Genome-wide association identifies the ABO blood group as a major locus associated with serum levels of soluble E-selectin. *Arterioscler. Thromb. Vasc. Biol.* **29(11)**, 1958-1967 (2009).
8. Cummings, C.J., Sessler, C.N., Beall, L.D., *et al*. Soluble E-selectin levels in sepsis and critical illness. Correlation with infection and hemodynamic dysfunction. *Am. J. Respir. Crit. Care Med.* **156(2 Pt 1)**, 431-437 (1997).
9. Tsukada, N., Miyagi, K., Matsuda, M., *et al*. Soluble E-selectin in the serum and cerebrospinal fluid of patients with multiple sclerosis and human T-lymphotropic virus type 1-associated myelopathy. *Neurology* **45(10)**, 1914-1918 (1995).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM