

L-SELECTIN/Fc CHIMERA

Human, Recombinant

Product Number **S 7314**

Synonyms: Leukocyte Selectin, LAM-1, LECAM-1, TQ1, Leu-8, MEL-14 antigen, DREG, lymph node homing receptor, CD62L

Product Description

L-Selectin/Fc Chimera is composed of the extracellular domain of human L-Selectin (amino acids 1-332)^{1,2,3} fused to the C-terminal end of a 6X histidine-tagged Fc region of human IgG via a polypeptide linker. The recombinant host is a mouse myeloma cell line, NSO. The recombinant protein exists as a disulfide-linked glycosylated homodimer. N-terminal sequencing indicates the amino terminus is Trp 39. The calculated molecular weight of the peptide monomer is 60.4 kDa, but as a result of glycosylation, the recombinant chimera migrates as an approximately 90-100 kDa protein on reducing SDS-PAGE.

Native L-Selectin is comprised of an N-terminal C-type lectin binding domain (aa 55-155), an epidermal growth factor-like domain (aa 156-192), two short consensus repeat (SCR) sequences homologous to those found in complement binding proteins (aa 196-255 and 258-317), a short spacer region, a trans-membrane region (aa 333-355) and a short cytoplasmic region (aa 356-372). Two forms of L-Selectin have been reported, apparently differing in their post-translational modification. The lymphocyte form shows an apparent molecular weight of 74 kDa, and the neutrophil form has a molecular weight of 90-100 kDa. Human and mouse L-selectins share 76% amino acid sequence homology.

L-Selectin is a member of the selectin family of adhesion receptors. It is cell surface glycoprotein expressed constitutively on a variety of leukocytes that mediates the adherence of lymphocytes to endothelial cells of high endothelial venules in peripheral lymph nodes. It plays an important early role in monocyte trafficking into peripheral lymph nodes and mediates lymphocyte homing and leukocyte accumulation at sites of inflammation.⁴ Data suggest that L-selectin engagement with ligand activates p38 mitogen-activated protein kinase (MAPK) and can impact on downstream events of leukocyte rolling, including adhesion, and emigration.⁵

Human L-Selectin binds to Sialyl Lewis^x, Sialyl Lewis^a, sulfatide, heparin, heparin sulfate, proteoglycans, fucoidan, dextran sulfate, yeast polyphosphomannan monoester core polysaccharide (PPME), carbohydrates presented on CD34 scaffold, and leukocyte P-Selectin glycoprotein Ligand-1 (PSGL-1). Sialylation, sulfation, and fucosylation appear to be required for strong interaction of a ligand with L-selectin, but the exact carbohydrate structures involved in recognition remain undefined.⁶

Reagent

L-Selectin/Fc Chimera is lyophilized from 0.2 mm filtered phosphate buffered saline.

Preparation Instructions

Reconstitute with sterile water to a stock concentration of 1 mg/ml.

Storage/Stability

After reconstitution, L-Selectin/Fc may be stored under sterile conditions for at least 4 weeks at -20 °C. Avoid repeated freeze-thaw cycles. Do not store in a frost-free freezer.

Product Profile

L-Selectin/Fc Chimera is measured by its ability to bind L-Selectin ligands on LS180 cells. Optimal dilutions should be determined by each laboratory for each application.

Purity: Greater than 90% by SDS-PAGE

Endotoxin level: < 0.1 ng/μg of protein as determined by the LAL (Limulus amoebocyte lysate) method.

References

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