Data Sheet (Cat.No.TMPY-00981)

TargetMol

ICAM-1/CD54 Protein, Human, Recombinant (aa 1-480,DDDDK)

General Information

Synonyms:	CD54;ICAM-1;intercellular adhesion molecule 1;P3.58;BB2
Protein Construction:	A DNA sequence encoding the human ICAM1 (NP_000192.2) extracellular domain (Met 1-Glu 480) with five amino acids (DDDDK) at the C-terminus was expressed and purified. Predicted N terminal: Gln 28
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P05362
Molecular Weight:	50.2 kDa (predicted); 71.3 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	≥ 95 % as determined by SDS-PAGE. ≥ 90 % as determined by SEC-HPLC.
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°C to -80°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°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Shipping:

In general, Lyophilized powders are shipping with blue ice.

Protein Background

Intercellular adhesion molecule-1 (ICAM-1, or CD54) is a 90 kDa member of the immunoglobulin (Ig) superfamily and is critical for the firm arrest and transmigration of leukocytes out of blood vessels and into tissues. ICAM-1 is constitutively present on endothelial cells, but its expression is increased by proinflammatory cytokines. The endothelial expression of ICAM-1 is increased in atherosclerotic and transplant-associated atherosclerotic tissue

and animal models of atherosclerosis. Additionally, ICAM-1 has been implicated in the progression of autoimmune diseases. ICAM-1 is a ligand for LFA-1(integrin). When activated, leukocytes bind to endothelial cells via ICAM-1/LFA-1 interaction and then transmigrate into tissues. Presence with heavy glycosylation and other structural characteristics, ICAM-1 possesses binding sites for some immune-associated ligands and serves as the binding site for entry of the major group of human Rhinovirus (HRV) into various cell types. ICAM-1 also becomes known for its affinity for Plasmodium falciparum-infected erythrocytes (PFIE), providing more of a role in infectious disease. Previous studies have shown that ICAM-1 is involved in inflammatory reactions and that a defect in ICAM-1 gene inhibits allergic contact hypersensitivity.

Reference

Xu H,et al.(2001) The role of ICAM-1 molecule in the migration of Langerhans cells in the skin and regional lymph node. Eur J Immunol. 31(10): 3085-93.

Terol MJ,et al.(2003) Soluble intercellular adhesion molecule-1 (s-ICAM-1/s-CD54) in diffuse large B-cell lymphoma: association with clinical characteristics and outcome. Ann Oncol. 14(3): 467-74.

Mendez MP,et al.(2006) Shedding of soluble ICAM-1 into the alveolar space in murine models of acute lung injury. Am J Physiol Lung Cell Mol Physiol. 290(5): L962-70.

Lawson C,et al.(2009) ICAM-1 signaling in endothelial cells. Pharmacol Rep. 61(1): 22-32.

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481