Data Sheet (Cat.No.TMPY-01234)

TargetMol

CD69 Protein, Human, Recombinant (His)

General Information

Synonyms:	BL-AC/P26;CLEC2C;GP32/28;AIM;CD69 molecule;MLR-3;EA1
Protein Construction:	A DNA sequence encoding the human CD69 (NP_001772.1) extracellular domain (Ser 62-Lys 199) was fused with a signal peptide at the N-terminus and a polyhistidine tag at the C-terminus. Predicted N terminal: Ser 62
Species:	Human
Expression Host:	HEK293 Cells
Accession:	Q07108
Molecular Weight:	17.4 kDa (predicted); 26.99 kDa and 23.11 kDa (reducing conditions)

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:	> 90 % 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°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.

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

Early activation antigen CD69, also known as activation inducer molecule (AIM), is a single-pass type II membrane protein. Recently, cDNA clones encoding human and mouse CD69 were isolated and showed CD69 to be a member of the C-type lectin superfamily. It is one of the earliest cell surface antigens expressed by T cells following activation. Once expressed, CD69 acts as a costimulatory molecule for T cell activation and proliferation. In

addition to mature T cells, CD69 is inducibly expressed by immature thymocytes, B cells, natural killer (NK) cells, monocytes, neutrophils and eosinophils, and is constitutively expressed by mature thymocytes and platelets. CD69 is involved in lymphocyte proliferation and functions as a signal transmitting receptor in lymphocytes, natural killer (NK) cells, and platelets. The structure, chromosomal localization, expression and function of CD69 suggest that it is likely a pleiotropic immune regulator , potentially important in the activation and differentiation of a wide variety of hematopoietic cells. This membrane molecule transiently expresses on activated lymphocytes, and its selective expression in inflammatory infiltrates suggests that it plays a role in the pathogenesis of inflammatory diseases. CD69 plays a crucial role in the pathogenesis of allergen-induced eosinophilic airway inflammation and hyperresponsiveness and that CD69 could be a possible therapeutic target for asthmatic patients.

Reference

Ziegler SF,et al.(1994) The activation antigen CD69. Stem Cells. 12(5): 456-65.
Marzio R,et al.(1999) CD69 and regulation of the immune function. Immunopharmacol Immunotoxicol. 21(3): 565-82.
Lamana A,et al.(2006) The role of CD69 in acute neutrophil-mediated inflammation. Eur J Immunol. 36(10): 2632-8.
Miki-Hosokawa T,et al.(2009) CD69 controls the pathogenesis of allergic airway inflammation. J Immunol. 183(12): 8203-15.

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