

## CD59a Protein, Mouse, Recombinant (His)

### General Information

Synonyms:	CD59a antigen;Cd59;protectin;RP24-297H17.1;AA987121
Protein Construction:	A DNA sequence encoding the mouse CD59a (NP_001104530.1) (Met 1-Lys 95), without the pro peptide, was fused with a C-terminal polyhistidine tag. Predicted N terminal: Leu 24
Species:	Mouse
Expression Host:	HEK293 Cells
Accession:	A2BI31
Molecular Weight:	9.7 kDa (predicted); 18 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:	> 92 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/ $\mu$ g of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 $\mu$ m 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

Protectin, a complement regulatory protein, also known as CD59, or MIRL (membrane inhibitor of reactive lysis) is a small protein that inhibits the complement membrane attack complex by binding C5b678 and preventing C9 from binding and polymerizing. The amino-terminal 25 amino acids represented a typical signal peptide sequence and the carboxy-terminal hydrophobic amino acids were characteristic for phosphatidylinositol-anchored proteins. It was found that the CD59/Protectin antigen is a small protein sometimes associated with larger

components (45 and 80 kD) in urine. CD59/Protectin antigen was released from the surface of transfected COS cells by phosphatidylinositol-specific phospholipase C, demonstrating that it is attached to the cell membrane by means of a glycolipid anchor; it is therefore likely to be absent from the surface of affected erythrocytes in the disease paroxysmal nocturnal hemoglobinuria.

### Reference

Huang Y, et al. (2006) Defining the CD59-C9 binding interaction. *J Biol Chem.* 281 (37): 27398-404.

Sawada R, et al. (1990) Isolation and expression of the full-length cDNA encoding CD59 antigen of human lymphocytes. *DNA Cell Biol.* 9(3): 213-20.

Philbrick WM, et al. (1990) The CD59 antigen is a structural homologue of murine Ly-6 antigens but lacks interferon inducibility. *Eur J Immunol.* 20(1): 87-92.

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