

# Human CD55 / DAF Protein (Fc Tag)

Catalog Number: 10101-H02H



Sino Biological  
Biological Solution Specialist

## General Information

### Gene Name Synonym:

CR; CROM; DAF; TC

### Protein Construction:

A DNA sequence encoding the human CD55 precursor (NP\_000565.1) (Met 1-Ser 353) was expressed with the C-terminal fused Fc region of human IgG1.

**Source:** Human

**Expression Host:** HEK293 Cells

## QC Testing

**Purity:** > 90 % as determined by SDS-PAGE

### Bio Activity:

**Measured by its binding ability in a functional ELISA . Immobilized recombinant human CD97 at 10 µg/ml (100 µl/well) can bind recombinant human CD55 at a linear range of 0.46-30 µg/ml .**

### Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

### Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

**Predicted N terminal:** Asp 35

### Molecular Mass:

The recombinant human CD55/Fc is a disulfide-linked homodimeric protein. The reduced monomer consists of 557 amino acids and has a predicted molecular mass of 61.7 kDa. In SDS-PAGE under reducing conditions, the apparent molecular mass of rhCD55/Fc monomer is approximately 95-105 kDa due to glycosylation.

### Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

## Usage Guide

### Storage:

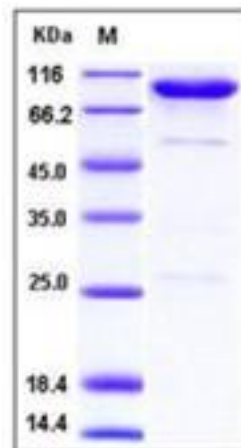
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## SDS-PAGE:



## Protein Description

CD55, also well known as decay-accelerating factor (DAF), is a member of the RCA (regulators of complement activation) family characterized by four to 30 SCRs (short consensus repeats) in their plasma-exposed regions. It is a major regulator of the alternative and classical pathways of complement activation and is expressed on all serum-exposed cells. CD55 is physiologically acting as an inhibitor of the complement system, but is also broadly expressed in malignant tumours. DAF seems to exert different functions beyond its immunological role such as promotion of tumorigenesis, decrease of complement mediated tumor cell lysis, autocrine loops for cell rescue and evasion of apoptosis, neoangiogenesis, invasiveness, cell motility. It is commonly hijacked by invading pathogens, including many enteroviruses and uropathogenic *Escherichia coli*, to promote cellular attachment prior to infection. This 70-75 kDa glycoprotein CD55 containing four SCR modules is involved in the regulation of the complement cascade. It inhibits complement activation by suppressing the function of C3/C5 convertases, thereby limiting local generation or deposition of C3a/C5a and membrane attack complex (MAC or C5b-9) production. DAF has been identified as a ligand for an activation-associated, seven-transmembrane lymphocyte receptor, CD97, which is a receptor mediating attachment and infection of several viruses and bacteria. In addition, it has been shown that DAF regulates the interplay between complement and T cell immunity in vivo, and thus may be implicated in immune and tumor biology.

## References

1. Lea S. (2002) Interactions of CD55 with non-complement ligands. *Biochem Soc Trans.* 30(Pt 6): 1014-9.
2. Mikesch JH, *et al.* (2006) The expression and action of decay-accelerating factor (CD55) in human malignancies and cancer therapy. *Cell Oncol.* 28(5-6): 223-32.
3. Wang Y, *et al.* (2010) Decay accelerating factor (CD55) protects neuronal cells from chemical hypoxia-induced injury. *J Neuroinflammation.* 7:24.

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