

# Rat CD38 Protein (His Tag)

Catalog Number: 80229-R08H



Sino Biological  
Biological Solution Specialist

## General Information

### Gene Name Synonym:

CD38

### Protein Construction:

A DNA sequence encoding the rat CD38 (Q64244) (Trp45-Val303) was expressed, fused with a polyhistidine tag at the C-terminus.

**Source:** Rat

**Expression Host:** HEK293 Cells

## QC Testing

**Purity:** > 95 % as determined by SDS-PAGE

### Bio Activity:

**Measured by its ability to convert the substrate nicotinamide guanine dinucleotide (NGD+) to cyclic GDPribose. The specific activity is >100,000pmols/min/ug.**

### 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:** Trp 45

### Molecular Mass:

The recombinant rat CD38 comprises 270 amino acids and predicts a molecular mass of 31.2 kDa. The apparent molecular mass of the recombinant protein is approximately 42 kDa in SDS-PAGE under reducing conditions 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:

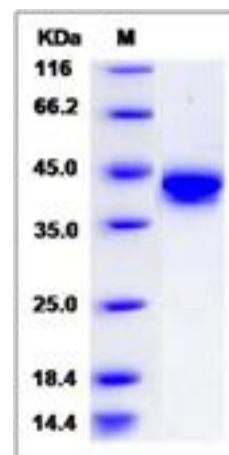
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## SDS-PAGE:



## Protein Description

The cluster of differentiation (CD) system is commonly used as cell markers in immunophenotyping. Different kinds of cells in the immune system can be identified through the surface CD molecules which associating with the immune function of the cell. There are more than 320 CD unique clusters and subclusters have been identified. Some of the CD molecules serve as receptors or ligands important to the cell through initiating a signal cascade which then alter the behavior of the cell. Some CD proteins do not take part in cell signal process but have other functions such as cell adhesion. Cluster of differentiation 38 (CD38), also known as ADP-ribosyl cyclase, is a glycoprotein found on the surface of many immune cells (white blood cells), including CD4+, CD8+, B and natural killer cells. It shares several characteristics with ADP-ribosyl cyclase 2 CD157. CD38 is a multifunctional ectoenzyme that catalyzes the synthesis and hydrolysis of cyclic ADP-ribose (cADPR) from NAD+ to ADP-ribose. It also functions in cell adhesion, signal transduction and calcium signaling. CD38 has been used as a prognostic marker in leukemia. It can also be used to identify plasma cells.

## References

- 1.Zola H, *et al.* (2007) CD molecules 2006-human cell differentiation molecules. *J Immunol Methods.* 318 (1-2): 1-5.
- 2.Ho IC, *et al.* (2009) GATA3 and the T-cell lineage: essential functions before and after T-helper-2-cell differentiation. *Nat Rev Immunol.* 9 (2): 125-35.
- 3.Matesanz-Isabel J, *et al.* (2011) New B-cell CD molecules. *Immunology Letters.* 134 (2): 104-12.

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