

PRODUCT INFORMATION



CD38 Extracellular Domain (human, recombinant)

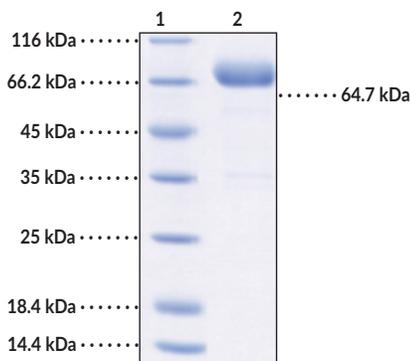
Item No. 44196

Overview and Properties

Synonyms: ADP-ribosyl Cyclase 1, cADPR Hydrolase 1, Cyclic ADP-ribose Hydrolase 1
Source: Active recombinant C-terminal human IgG1 Fc-tagged CD38 extracellular domain expressed in HEK293 cells
Amino Acids: 43-300
Uniprot No.: P28907
Molecular Weight: 56.6 kDa
Storage: -80°C (as supplied)
Stability: ≥1 year
Purity: ≥95% estimated by SDS-PAGE
Supplied in: Lyophilized from sterile PBS, pH 7.4
Endotoxin Testing: <1.0 EU/μg, determined by the LAL endotoxin assay
Protein Concentration: *batch specific* mg/ml

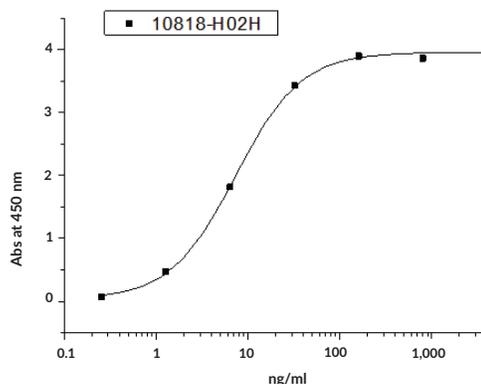
Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



Lane 1: MW Markers
Lane 2: CD38

SDS-PAGE Analysis of CD38. This protein has a calculated molecular weight of 56.6 kDa. It has an apparent molecular weight of approximately 64.7 kDa by SDS-PAGE under reducing conditions due to glycosylation.



Immobilized CD38 (human, recombinant) at 2 μg/ml (100 μl/well) can bind anti-CD38 (research grade daratumumab biosimilar) with an EC₅₀ value of 4-15 ng/ml (QC tested).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

CD38, also known as ADP-ribosyl cyclase 1, is a single-chain type II transmembrane glycoprotein with enzymatic activity and cell surface receptor functions that has roles in calcium signaling and immunomodulation.¹⁻³ It is composed of a C-terminal catalytic domain, which can be oriented towards the extracellular or intracellular environment, a transmembrane segment, and a short N-terminal cytoplasmic tail, which interacts with the tyrosine kinase Lck.^{1,4} CD38 expression is induced by cytokine, interferon, or endotoxin stimulation in a variety of immune cells, including T cells, B cells, granulocytes, and natural killer (NK) cells, as well as malignant plasma cells, and predominantly localizes to lipid rafts.¹⁻³ It is also found in the nucleus and mitochondrial membrane, as well as in the cytoplasm.¹ CD38 regulates calcium signaling by catalyzing the formation of the intracellular calcium mobilizing messengers cyclic ADP-ribose and nicotinic acid adenine dinucleotide phosphate (NAADP).⁵ It is a receptor for CD31, an adhesion molecule expressed by endothelial cells, and associates with a variety of signaling complexes, such as CD3/T cell receptor and CD19/CD21/B cell receptor complexes.^{1,3} CD38 protein expression is increased on plasma cells isolated from patients with multiple myeloma.⁶ Cayman's CD38 Extracellular Domain (human, recombinant) protein can be used for enzyme activity and binding assay applications. This protein is a disulfide-linked homodimer. The reduced monomer, composed of CD38 (amino acids 43-300) fused to human IgG1 Fc at its C-terminus, consists of 496 amino acids and has a calculated molecular weight of 56.6 kDa. As a result of glycosylation, the monomer migrates at approximately 64.7 kDa by SDS-PAGE under reducing conditions.

References

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4. Malavasi, F., Deaglio, S., Funaro, A., *et al.* Evolution and function of the ADP ribosyl cyclase/CD38 gene family in physiology and pathology. *Physiol. Rev.* **88(3)**, 841-886 (2008).
5. van de Donk, N.W.C.J., Richardson, P.G., and Malavasi, F. CD38 antibodies in multiple myeloma: Back to the future. *Blood* **131(1)**, 13-29 (2018).
6. Li, T., Qi, S., Unger, M., *et al.* Immuno-targeting the multifunctional CD38 using nanobody. *Sci. Rep.* **6**, 27055 (2016).

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