# PRODUCT INFORMATION

## CD38 Rabbit Monoclonal Antibody (RM388)

*Item No. 32324*

### Overview and Properties

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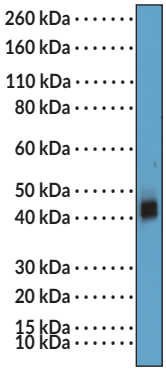
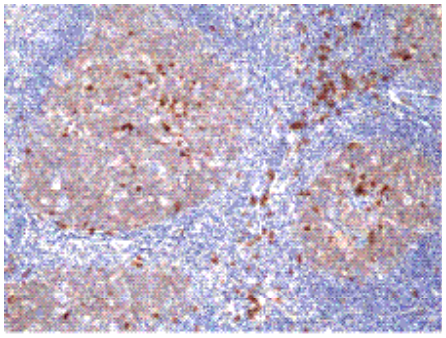
|---|---|
| **Contents:** | This vial contains 100 µl of protein A-affinity purified monoclonal antibody. |
| **Synonym:** | ADP-ribosyl Cyclase 1 |
| **Immunogen:** | Peptide corresponding to residues near the C-terminus of human CD38 |
| **Cross Reactivity:** | (+) CD38 |
| **Species Reactivity:** | (+) Human |
| **Form:** | Liquid |
| **Storage:** | -20°C (as supplied) |
| **Stability:** | ≥1 year |
| **Storage Buffer:** | PBS with 50% glycerol, 1% BSA, and 0.09% sodium azide |
| **Clone:** | RM388 |
| **Host:** | Rabbit |
| **Isotype:** | IgG |
| **Applications:** | Immunohistochemistry (IHC) and Western blot (WB); the recommended starting dilution is 1:100-1:200 for IHC and 1:1,000-1:2,000 for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically. |

### Images




WB of human Jurkat cell lysate using CD38 Rabbit Monoclonal Antibody (RM388) at a dilution of 1:1,000.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human tonsil tissue using CD38 Rabbit Monoclonal Antibody at a dilution of 1:100.



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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 orientated 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 Rabbit Monoclonal Antibody (RM388) can be used for immunohistochemistry (IHC) and Western blot (WB) applications.

## References


1. Hogan, K.A., Chini, C.C.S., and Chini, E.N. The multi-faceted ecto-enzyme CD38: Roles in immunomodulation, cancer, aging, and metabolic diseases. *Front. Immunol.* **10**, 1187 (2019).
2. Bonello, F., D'Agostino, M., Moscvin, M., *et al*. CD38 as an immunotherapeutic target in multiple myeloma. *Expert Opin. Biol. Ther*. **18(12)**, 1209-1221 (2018).
3. Morandi, F., Airoldi, I., Marimpietri, D., *et al*. CD38, a receptor with multifunctional activities: From modulatory functions on regulatory cell subsets and extracellular vesicles, to a target for therapeutic strategies. *Cells* **8(12)**, 1527 (2019).
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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