Revision 3

Store at +4C

#24713

CD38 (HIT2) Mouse mAb (violetFluor™ 450 Conjugate)

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
FC-L	H	Endogenous	Mouse IgG1 kappa	#P28907	952

Product Usage Information

Application	Dilution
Flow Cytometry (Live)	1:20

Storage

Supplied in 10 mM NaH_2PO_4, 150 mM NaCl, 0.09% NaN_3, 0.1% gelatin, pH 7.2. This product is stable for 6 months when stored at 4ºC. Do not aliquot the antibody. Protect from light. Do not freeze.

Specificity/Sensitivity

CD38 (HIT2) Mouse mAb (violetFluor™ 450 Conjugate) recognizes endogenous levels of total CD38 protein. This antibody detects an epitope within the extracellular domain.

Source / Purification

This monoclonal antibody was purified from tissue culture supernatant via affinity chromatography. The purified antibody was conjugated under optimal conditions, with unreacted dye removed from the preparation.

Description

This Cell Signaling Technology antibody is conjugated to violetFluor™ 450 and tested in-house for direct flow cytometric analysis in human cells.

Background

Cyclic ADP-ribose hydrolase 1 (CD38) is a transmembrane protein involved in several important biological processes, including immune response, insulin secretion, and social behavior. Originally described as a glycosylated immune cell surface marker, additional research determined that CD38 is a multifunctional enzyme that catalyzes the synthesis and hydrolysis of cyclic ADP ribose (cADPR) from NAD (1,2). Under acidic conditions, CD38 also catalyzes the synthesis of nicotinic acid adenine dinucleotide phosphate (NAADP) from $NADP^+$. Both cADPR and NAADP act as calcium ion mobilizing messengers that target different intracellular Ca^{2+} stores (3-6). Since CD38 is the primary mammalian NAD^+ glycohydrolase responsible for NAD^+ metabolism, CD38 may be a valuable therapeutic target for treatment of metabolic diseases regulated by NAD^+-dependent pathways (7,8). CD38 has also been considered a possible therapeutic target for antibody-mediated therapy for myeloma and chronic lymphocytic leukemia (9-11).

Background References

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5. Ogunbayo, O.A. et al. (2011) *J Biol Chem* 286, 9136-40.
6. Lee, H.C. (2012) *J Biol Chem* 287, 31633-40.
7. Cantó, C. et al. (2012) *Cell Metab* 15, 838-47.
8. Escande, C. et al. (2013) *Diabetes* 62, 1084-93.
9. Malavasi, F. et al. (2011) *Blood* 118, 3470-8.
10. Deaglio, S. et al. (2010) *Semin Cancer Biol* 20, 416-23.
11. Chillemi, A. et al. (2013) *Mol Med* 19, 99-108.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Applications Key

FC-L: Flow Cytometry (Live)

Cross-Reactivity Key

H: Human

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Limited Uses

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