

**CD38 (HIT2) Mouse mAb (PE Conjugate)**

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**For Research Use Only. Not for Use in Diagnostic Procedures.**

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

**Product Usage Information****Application**

Flow Cytometry (Live)

**Dilution**

1:20

**Storage**

Supplied in 10 mM NaH<sub>2</sub>PO<sub>4</sub>, 150 mM NaCl, 0.09% NaN<sub>3</sub>, 0.1% gelatin, pH 7.2. This product is stable for 12 months when stored at 4°C. Do not aliquot the antibody. Protect from light. Do not freeze.

**Specificity/Sensitivity**

CD38 (HIT2) Mouse mAb (PE 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 PE 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<sup>+</sup>. Both cADPR and NAADP act as calcium ion mobilizing messengers that target different intracellular Ca<sup>2+</sup> stores (3-6). Since CD38 is the primary mammalian NAD<sup>+</sup> glycohydrolase responsible for NAD<sup>+</sup> metabolism, CD38 may be a valuable therapeutic target for treatment of metabolic diseases regulated by NAD<sup>+</sup>-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**

1. Malavasi, F. et al. (2008) *Physiol Rev* 88, 841-86.
2. Jin, D. et al. (2007) *Nature* 446, 41-5.
3. Lee, H.C. et al. (1999) *Mol Cell Biochem* 193, 89-98.
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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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