Revision 1

Store at -20C

#14637

CD38 Antibody

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H	Endogenous	45	Rabbit	#P28907	952

Product Usage Information

Application	Dilution
Western Blotting	1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

CD38 Antibody recognizes endogenous levels of total CD38 protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Asn229 of human CD38 protein. Antibodies are purified by protein A and peptide affinity chromatography.

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

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.
4. Calcraft, P.J. et al. (2009) *Nature* 459, 596-600.
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).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human

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Limited Uses

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