



1A-366-T025

## Monoclonal Antibody to CD38 Allophycocyanin (APC) conjugated (25 tests)

<b>Clone:</b>	HIT2
<b>Isotype:</b>	Mouse IgG1
<b>Specificity:</b>	The antibody HIT2 reacts with CD38 (T10), a 45 kDa type II transmembrane glycoprotein strongly expressed mainly on plasma cells and activated T and B lymphocytes; it is an antigenic marker of lymphoid cells. HLDA III; WS Code T 155
<b>Regulatory Status:</b>	RUO
<b>Immunogen:</b>	Human thymocytes in foetus
<b>Species Reactivity:</b>	Human
<b>Preparation:</b>	The purified antibody is conjugated with cross-linked Allophycocyanin (APC) under optimum conditions. The conjugate is purified by size-exclusion chromatography and adjusted for direct use. No reconstitution is necessary.
<b>Storage Buffer:</b>	The reagent is provided in stabilizing phosphate buffered saline (PBS) solution containing 15mM sodium azide.
<b>Storage / Stability:</b>	Store in the dark at 2-8°C. Do not freeze. Avoid prolonged exposure to light. Do not use after expiration date stamped on vial label.
<b>Usage:</b>	The reagent is designed for Flow Cytometry analysis of human blood cells using 10 µl reagent / 100 µl of whole blood or 10 <sup>6</sup> cells in a suspension. The content of a vial (0.25 ml) is sufficient for 25 tests.
<b>Expiration:</b>	See vial label
<b>Lot Number:</b>	See vial label
<b>Background:</b>	CD38 (NAD <sup>+</sup> glycohydrolase) is a type II transmembrane glycoprotein able to induce activation, proliferation and differentiation of mature lymphocytes and mediate apoptosis of myeloid and lymphoid progenitor cells. Another role of CD38 is provided by enzymatic activity of its extracellular part. CD38 acts as NAD <sup>+</sup> glycohydrolase converting NAD <sup>+</sup> into ADP-ribose, as ADP-ribosyl cyclase producing cADPR and as cADPR hydrolase, thus affecting levels of calcium-mobilizing metabolites. ADPR produced by CD38 serves as an important second messenger of neutrophil and dendritic cell migration.

**For laboratory research only, not for drug, diagnostic or other use.**

**Antibodies**

- References:**
- \*Cakir-Kiefer C, Muller-Steffner H, Oppenheimer N, Schuber F: Kinetic competence of the cADP-ribose-CD38 complex as an intermediate in the CD38/NAD<sup>+</sup> glycohydrolase-catalysed reactions: implication for CD38 signalling. *Biochem J.* 2001 Sep 1;358(Pt 2):399-406.
  - \*Lund FE, Muller-Steffner H, Romero-Ramirez H, Moreno-García ME, Partida-Sánchez S, Makris M, Oppenheimer NJ, Santos-Argumedo L, Schuber F: CD38 induces apoptosis of a murine pro-B leukemic cell line by a tyrosine kinase-dependent but ADP-ribosyl cyclase- and NAD glycohydrolase-independent mechanism. *Int Immunol.* 2006 Jul;18(7):1029-42.
  - \*Partida-Sanchez S, Gasser A, Fliegert R, Siebrands CC, Dammermann W, Shi G, Mousseau BJ, Sumoza-Toledo A, Bhagat H, Walseth TF, Guse AH, Lund FE. Chemotaxis of mouse bone marrow neutrophils and dendritic cells is controlled by adp-ribose, the major product generated by the CD38 enzyme reaction. *J Immunol.* 2007 Dec 1;179(11):7827-39.
  - \*Leukocyte Typing III., McMichael AJ et al (Eds.), Oxford University Press (1987).
  - \*Rozková D, Novotná L, Pytlík R, Hochová I, Kozák T, Bartůnková J, Spísek R: Toll-like receptors on B-CLL cells: expression and functional consequences of their stimulation. *Int J Cancer.* 2010 Mar 1;126(5):1132-43.
  - \*Kolar GR, Mehta D, Pelayo R, Capra JD: A novel human B cell subpopulation representing the initial germinal center population to express AID. *Blood.* 2007 Mar 15;109(6):2545-52.
  - \*Všianská P, Říhová L, Varmužová T, Suská R, Kryukov F, Mikulášová A, Kupská R, Penka M, Pour L, Adam Z, Hájek R: Analysis of B-cell subpopulations in monoclonal gammopathies. *Clin Lymphoma Myeloma Leuk.* 2015 Apr;15(4):e61-71.

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EXBIO Praha | Nad Safinou II 341 | 252 50 Vestec u Prahy | Czech Republic  
Tel: +420 261 090 666 | Fax: +420 261 090 660 | [orders@exbio.cz](mailto:orders@exbio.cz) | [www.exbio.cz](http://www.exbio.cz)