

A4-217-T100

Monoclonal Antibody to CD20 Alexa Fluor® 488 conjugated (100 tests)

Clone:	MEM-97
Isotype:	Mouse IgG1
Specificity:	The antibody MEM-97 reacts with CD20 (Bp35), a 33-37 kDa non-glycosylated membrane receptor with four transmembrane domains, expressed on B lymphocytes (it is lost on plasma cells), follicular dendritic cells, and at low levels on peripheral blood T lymphocytes. HLDA V; WS Code B CD20.9
Immunogen:	Raji human Burkitt's lymphoma cell line
Species Reactivity:	Human, Porcine, Bovine
Preparation:	The purified antibody is conjugated with Alexa Fluor® 488 under optimum conditions. The conjugate is purified by size-exclusion chromatography and adjusted for direct use. No reconstitution is necessary.
Storage Buffer:	The reagent is provided in phosphate buffered saline (PBS) containing 15 mM sodium azide and 0.2% (w/v) high-grade protease free Bovine Serum Albumin (BSA) as a stabilizing agent.
Storage / Stability:	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. Short-term exposure to room temperature should not affect the quality of the reagent. However, if reagent is stored under any conditions other than those specified, the conditions must be verified by the user.
Usage:	The reagent is designed for Flow Cytometry analysis of human blood cells using 4 µl reagent / 100 µl of whole blood or 10 ⁶ cells in a suspension. The content of a vial (0.4 ml) is sufficient for 100 tests.
Expiration:	See vial label
Lot Number:	See vial label
Background:	CD20 is a cell surface 33-37 (depending on the degree of phosphorylation) kDa non-glycosylated surface phosphoprotein expressed on mature and most malignant B cells, but not stem cells or plasma cells (low number of the CD20 has been also detected on a subpopulation of T lymphocytes and it can be expressed on follicular dendritic cells). Its expression on B cells is synchronous with the expression of surface IgM. CD20 regulates transmembrane calcium conductance (probably functioning as a component of store-operated calcium channel), cell cycle progression and B-cell proliferation. It is associated with lipid rafts, but the intensity of this association depends on extracellular triggering, employing CD20 conformational change and/or BCR (B cell antigen receptor) aggregation. After the receptor ligation, BCR and CD20 colocalize and then rapidly dissociate before BCR endocytosis, whereas CD20 remains at the cell surface. CD20 serves as a useful target for antibody-mediated therapeutic depletion of B cells, as it is expressed at high levels on most B-cell malignancies, but does not become internalized or shed from the plasma membrane following mAb treatment.

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

**Antibodies**

- References:**
- *Leukocyte Typing V., Schlossman S. et al. (Eds.), Oxford University Press (1995).
 - *Szollosi J, Horejsi V, Bene L, Angelisova P, Damjanovich S.: Supramolecular complexes of MHC class I, MHC class II, CD20, and tetraspan molecules (CD53, CD81, and CD82) at the surface of a B cell line JY. *J Immunol.* 1996 Oct 1;157(7):2939-46.
 - *Polyak MJ, Deans JP: Alanine-170 and proline-172 are critical determinants for extracellular CD20 epitopes; heterogeneity in the fine specificity of CD20 monoclonal antibodies is defined by additional requirements imposed by both amino acid sequence and quaternary structure. *Blood.* 2002 May 1;99(9):3256-62.
 - *Brdicková N, Brdicka T, Angelisová P, Horváth O, Spicka J, Hilgert I, Paces J, Simeoni L, Kliche S, Merten C, Schraven B, Horejsí V: LIME: a new membrane Raft-associated adaptor protein involved in CD4 and CD8 coreceptor signaling. *J Exp Med.* 2003 Nov 17;198(10):1453-62.
 - *Faldyna M, Samankova P, Leva L, Cerny J, Ujezdská J, Rehakova Z, Sinkora J: Cross-reactive anti-human monoclonal antibodies as a tool for B-cell identification in dogs and pigs. *Vet Immunol Immunopathol.* 2007 Sep 15;119(1-2):56-62.

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