

A7-414-T025

## Monoclonal Antibody to CD20 Alexa Fluor® 700 conjugated (25 tests)

<b>Clone:</b>	LT20
<b>Isotype:</b>	Mouse IgG2a
<b>Specificity:</b>	The antibody LT20 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.
<b>Immunogen:</b>	Normal human lymphocytes from lymph node.
<b>Species Reactivity:</b>	Human
<b>Preparation:</b>	The purified antibody is conjugated with Alexa Fluor® 700 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 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.
<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. 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.
<b>Usage:</b>	The reagent is designed for Flow Cytometry analysis of human blood cells using 4 µl reagent / 100 µl of whole blood or 10 <sup>6</sup> cells in a suspension. The content of a vial (0.1 ml) is sufficient for 25 tests.
<b>Expiration:</b>	See vial label
<b>Lot Number:</b>	See vial label
<b>Background:</b>	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:**

- \*Hultin LE, Hausner MA, Hultin PM, Giorgi JV: CD20 (pan-B cell) antigen is expressed at a low level on a subpopulation of human T lymphocytes. *Cytometry*. 1993;14(2):196-204.
- \*Petrie RJ, Deans JP: Colocalization of the B cell receptor and CD20 followed by activation-dependent dissociation in distinct lipid rafts. *J Immunol*. 2002 Sep 15;169(6):2886-91.
- \*Li H, Ayer LM, Polyak MJ, Mutch CM, Petrie RJ, Gauthier L, Shariat N, Hendzel MJ, Shaw AR, Patel KD, Deans JP. The CD20 calcium channel is localized to microvilli and constitutively associated with membrane rafts: antibody binding increases the affinity of the association through an epitope-dependent cross-linking-independent mechanism. *J Biol Chem*. 2004 May 7;279(19):19893-901.
- \*Cragg MS, Walshe CA, Ivanov AO, Glennie MJ: The biology of CD20 and its potential as a target for mAb therapy. *Curr Dir Autoimmun*. 2005;8:140-74.
- \*Glennie MJ, French RR, Cragg MS, Taylor RP: Mechanisms of killing by anti-CD20 monoclonal antibodies. *Mol Immunol*. 2007 Sep;44(16):3823-37.
- \*Leukocyte Typing VII., Mason D. et al. (Eds.), Oxford University Press (2002).
- \*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.
- \*Chan HT, Hughes D, French RR, Tutt AL, Walshe CA, Teeling JL, Glennie MJ, Cragg MS: CD20-induced lymphoma cell death is independent of both caspases and its redistribution into triton X-100 insoluble membrane rafts. *Cancer Res*. 2003 Sep 1;63(17):5480-9.
- \*Teeling JL, Mackus WJ, Wiegman LJ, van den Brakel JH, Beers SA, French RR, van Meerten T, Ebeling S, Vink T, Slootstra JW, Parren PW, Glennie MJ, van de Winkel JG: The biological activity of human CD20 monoclonal antibodies is linked to unique epitopes on CD20. *J Immunol*. 2006 Jul 1;177(1):362-71.

This product is provided under an agreement between Molecular Probes, Inc. (a wholly owned subsidiary of Invitrogen Corporation), and Exbio Praha, a.s., and the manufacture, use, sale or import of this product may be subject to one or more U.S. patents, pending applications, and corresponding non-U.S. equivalents, owned by Molecular Probes, Inc. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product in research conducted by the buyer (whether the buyer is an academic or for-profit entity), including use in flow cytometry that does not utilize a bead based array, but excluding use in combination with microarrays or High Content Screening. The buyer cannot sell or otherwise transfer (a) this product (b) its components or (c) materials made using this product or its components to a third party or otherwise use this product or its components or materials made using this product or its components for Commercial Purposes. Commercial Purposes means any activity by a party for consideration and may include, but is not limited to: (1) use of the product or its components in manufacturing; (2) use of the product or its components to provide a service, information, or data; (3) use of the product or its components for therapeutic, diagnostic or prophylactic purposes; or (4) resale of the product or its components, whether or not such product or its components are resold for use in research. For information on purchasing a license to this product for any other use, contact Molecular Probes, Inc., Business Development, 29851 Willow Creek Road, Eugene, OR 97402, USA, Tel: (541) 465-8300. Fax: (541) 335-0504.

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

EXBIO Praha | Nad Safinou II 341 | 252 42 Vestec u Prahy | Czech Republic  
Tel: +420 261 090 664 | Fax: +420 261 090 660 | orders@exbio.cz | www.exbio.cz