

Technical Data Sheet

InVivoMAb anti-mouse CD20



Attention: Use of this product constitutes an agreement to Bio X Cell's Terms and Conditions which are included with this product in print and can also be found at <https://bioxcell.com/terms-and-conditions>.

Lot Specific Information

Lot Number: Lot Specific*
Volume: Lot Specific*
Concentration: Lot Specific* (generally 4 to 11 mg/ml) *
Total Protein: Lot Specific*

*This information will be noted on the certificate of analysis that ships with this product.

Product Information

Catalog Number: BE0356
Clone: MB20-11
Isotype: Mouse IgG2c, κ
Recommended Isotype Control(s): InVivoMAb mouse IgG2c isotype control, anti-dengue virus
Recommended Dilution Buffer: InVivoPure pH 7.0 Dilution Buffer
Immunogen: Mouse CD20-GFP transfected 300.19 cells
Reported Applications: *in vivo* B cell depletion
Western blot
Formulation: PBS, pH 7.0
Contains no stabilizers or preservatives
Endotoxin: $\leq 1\text{EU/mg}$ ($\leq 0.001\text{EU}/\mu\text{g}$)
Determined by LAL assay
Purity: $\geq 95\%$
Determined by SDS-PAGE
Sterility: $0.2\ \mu\text{m}$ filtration
Production: Purified from cell culture supernatant in an animal-free facility
Purification: Protein A
RRID: [AB_2894775](https://rrid.info/AB_2894775)
Molecular Weight: 150 kDa

Description

The MB20-11 monoclonal antibody reacts with mouse CD20. CD20 is a B cell-specific 33-37 kDa transmembrane protein which is also known as B-lymphocyte antigen, B1, and Bp35. CD20 is expressed on the surface of immature and mature B cells and their malignant counterparts. CD20 plays roles in intracellular calcium regulation and B cell activation and is critical for an optimal B cell immune response against T-independent antigens. B cell depleting antibodies are valuable tools for studying B cell biology and developing therapies for autoimmune diseases and malignancies. The MB20-11 antibody rapidly and effectively depletes B cells via antibody-dependent cellular cytotoxicity (ADCC) through engaging Fc γ receptors on monocytes and other effector cells. Isotype-specific interactions contribute significantly to the effectiveness of CD20 mAbs *in vivo*, with IgG2a/c mAbs having greater potency than IgG1 or IgG2b. IgG2a and IgG2c isotypes are indistinguishable in their specificities to murine Fc γ R. Mouse strains such as C57Bl/6, C57Bl/10, SJL, and NOD mice possess the Igh1-b allele resulting in only the expression of IgG2c. However, mouse strains such as BALB/c and Swiss Webster mice possess the Igh1-a allele which results in only the expression of IgG2a. It is important to consider matching the Ig-haplotype of the receiving mice to the isotype of the injected antibody to avoid eliciting an undesired immune response. Bio X Cell is pleased to also offer recombinant MB20-11-CP062. This monoclonal antibody has variable domain sequences identical to MB20-11 but the constant region has been converted from mouse IgG2c to mouse IgG2a for use in mice with the Igh-1a allele. Additionally, the highly controlled sequence and lack of genetic drift in recombinant antibodies provide more reliable and reproducible results over hybridoma derived antibodies. 1: Uchida, Junji et al. "The innate mononuclear phagocyte network depletes B lymphocytes through Fc receptor-dependent mechanisms during anti-CD20 antibody immunotherapy." The

Journal of experimental medicine vol. 199,12 (2004): 1659-69. doi:10.1084/jem.20040119 2: Xiu, Yan et al. "B lymphocyte depletion by CD20 monoclonal antibody prevents diabetes in nonobese diabetic mice despite isotype-specific differences in Fc gamma R effector functions." Journal of immunology (Baltimore, Md. : 1950) vol. 180,5 (2008): 2863-75. doi:10.4049/jimmunol.180.5.2863 3: Hamaguchi, Yasuhito et al. "Antibody isotype-specific engagement of Fc gamma receptors regulates B lymphocyte depletion during CD20 immunotherapy." The Journal of experimental medicine vol. 203,3 (2006): 743-53. doi:10.1084/jem.20052283 4: Zhang, Zhiping et al. "Possible allelic structure of IgG2a and IgG2c in mice." Molecular immunology vol. 50,3 (2012): 169-71. doi:10.1016/j.molimm.2011.11.006

Storage

Store at the stock concentration at 4°C . **Do not freeze.**

It is not uncommon for a floccule or precipitate to appear during storage. The floccule is typically buffer salts precipitating out of solution or a small bit of protein aggregation. For information on how to remove floccules or precipitates see our FAQ's at <https://bioxcell.com/faqs>.

Protocol Information

Since applications vary, each investigator should use the application references as a guide to help estimate the appropriate dose or concentration. The dose or concentration can be further optimized experimentally in a dose response or titration experiment.

Application References

For a complete list of references, visit

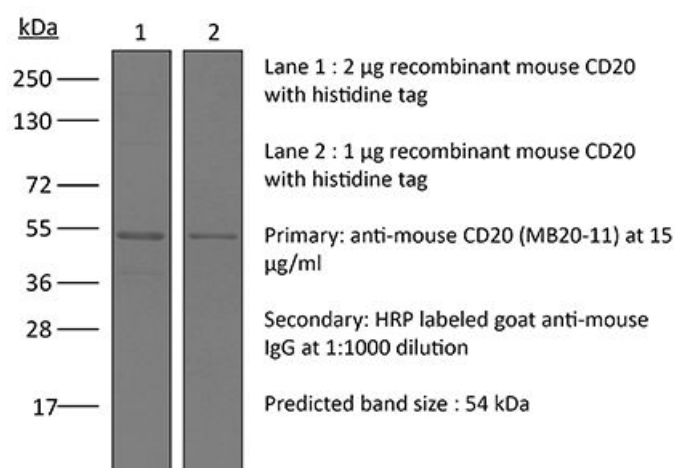
https://bioxcell.com/be0356?bxcs=9k1b3a#tab_references

or scan the QR code below.



Binding Validation

Validation data shown below confirms that this clone binds to its target antigen. For lot specific binding validation data, e-mail technicalservice@bioxcell.com.



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