

Anti-dCD20c1-dIgG2

Monoclonal dog IgG2 antibody against dog CD20

Catalog # dcd20-mab1

For research use only, not for diagnostic or therapeutic use

Version # 15J27-MM

PRODUCT INFORMATION

Content: 100 µg purified anti-dCD20c1-dIgG2 antibody, provided azide-free and lyophilized.

Clone: 6C12

Isotype: Dog IgG2

Formulation: 0.2 µm filtered solution in 68 mM phosphate buffer with 91 mM glycine, 5% w/v saccharose and stabilizing agents.

Antibody resuspension

Add 1 ml of sterile water to obtain a concentration of 0.1 mg/ml.

Storage

- Product is shipped at room temperature. Store lyophilized antibody at -20 °C. Lyophilized product is stable for 1 year.
- Reconstituted antibody is stable for 1 month when stored at 4 °C and 6 months when aliquoted and stored at -20 °C. Avoid repeated freeze-thaw cycles.

Quality control

- The absence of bacterial contamination (e.g. endotoxins and peptidoglycans) is confirmed by using HEK-Blue™ TLR2 and HEK-Blue™ TLR4 cells.
- Recognition of dCD20 with this antibody is tested using flow cytometry.

BACKGROUND

CD20 is a transmembrane phosphoprotein that is expressed on the surface of malignant and normal B lymphocytes. As CD20 expression is restricted to B cells, this antigen is a useful marker or target for B-cell lymphomas¹. Studies demonstrate that the expression of CD20 correlates with B-cell lymphoma in dogs². In human medicine, an anti-human CD20 monoclonal antibody (Rituximab) has been used to treat B-cell non-Hodgkin's lymphoma. Binding of rituximab to CD20 results in cell destruction through different mechanisms including direct signaling of apoptosis, complement activation and cell-mediated cytotoxicity. Rituximab was tested for B-cell binding and depletion in canine B-cells *ex vivo*; however, this human therapeutic is not able to bind or deplete canine B-cells^{3,4}. Thus, there is a need for specific antibodies directed against dog CD20. Such antibodies can be used to investigate CD20 as a therapeutic target in canine lymphoma.

1. Kosmas C. *et al.*, 2002. Anti-CD20-based therapy of B cell lymphoma: state of the art. Leukemia. 16(10):2004-15. 2. Jubala C. *et al.*, 2005. CD20 Expression in Normal Canine B Cells and in Canine non-Hodgkin Lymphoma. Vet. Path. 42:468-76. 3. Crow S., 2008. Chemioimmunotherapy for canine lymphoma: tumor vaccines and monoclonal antibodies. Cancer Therapy 6:181-6. 4. Impellizeri J. *et al.*, 2006. The role of rituximab in the treatment of canine lymphoma: An ex vivo evaluation. Vet. J. 171:556-8. 5. Rütgen B. *et al.*, 2010. Establishment and characterization of a novel canine B-cell line derived from a spontaneously occurring diffuse large cell lymphoma. Leuk Res. 4(7):932-8.

DESCRIPTION

Anti-dCD20c1-dIgG2 is a chimeric monoclonal antibody specific for dog CD20 (dCD20). In flow cytometry applications, this antibody has exhibited weak cross-reactivity with human CD20. Reactivity with other species has not been tested. It has been produced in CHO cells and purified by affinity chromatography with protein A. Anti-dCD20c1-dIgG2 was generated by combining the constant domains of the dog IgG2 molecule with the variable regions of Anti-dCD20c1-mIgG2a. Anti-dCD20c1-mIgG2a has been selected for its ability bind dCD20 and induce complement-dependent cytotoxicity (CDC).

APPLICATIONS

This antibody is designed for veterinary research. The affinity and specificity of this antibody can be tested *in vitro* prior to *in vivo* experiments. Large quantities of sterile, endotoxin-free antibodies for preclinical veterinary medicine are available. To obtain pricing for these antibodies, contact info@invivogen.com.

Flow Cytometry

Anti-dCD20c1-dIgG2 together with a FITC goat anti-canine secondary antibody can be used to stain dCD20-expressing cells, such as murine cells expressing dCD20 or a canine CD20⁺ lymphoma cell line, CLBL-1⁵. We recommend to use anti-dCD20c1-dIgG2 at 500 - 2000 ng/10⁶ cells.

Cell lysis

Anti-dCD20c1-dIgG2 can be used to induce cell lysis of B lymphoma cells from biopsies using *in vitro* complement assays.

B-cell depletion

B-cell depletion with anti-dCD20c1-dIgG2 can be observed in whole blood assays using another B cell marker, such anti-CD19.

Other applications

Anti-dCD20c1-dIgG2 antibody is not suitable for immunohistochemical staining. Other applications have not been tested.

RELATED PRODUCTS

Product	Catalog Code
Anti-dCD20c2-dIgG2	dcd20-mab2
Anti-dCD20c3-dIgG2	dcd20-mab3
Anti-dCD20c1-mIgG2a	dcd20-mab11

TECHNICAL SUPPORT

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