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Mouse anti Human CD20

Catalogue number: **MUB2010P**

Clone	NKI-B20
Isotype	IgG1, IgG2a, IgG2b
Product Type	Primary Antibodies
Units	0.1 mg
Host	Mouse (Balb/c)
Species reactivity	Human
Application	ELISA Flow cytometry Immunohistochemistry (frozen) Immunoprecipitation

Distributors

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Background

The antigen recognized by CD20 MAbs is a 35-37 kDa non-glycosylated phosphoprotein, that may function as a Ca²⁺ ion channel. The protein structure deduced from cloned DNA sequence suggests that the CD20 antigen is a transmembrane protein that passes the membrane four times, with both the C- and the N-terminus on the cytoplasmic side and only a small part exposed on the cell surface. Expression of CD20 antigen is specific for B lymphocytes and is present during most differentiation stages, beginning at the early pre-B cell stage and disappearing upon differentiation into plasma cells. The CD20 molecule appears to be involved in the activation and cell cycle progress of B lymphocytes. Stimulating as well as inhibitory effects in different phases of the cell cycle have been reported for different CD20 MAbs. Pokeweed mitogen induced differentiation of B lymphocytes into Ig-producing cells is inhibited by CD20 MAbs. The CD20 antigen is also expressed on most malignant B cells. In agreement with the expression during normal B cell differentiation, all malignancies of mature B cells are CD20 positive, but early pre-B ALL cells often lack CD20 antigen. The restriction of its expression to B lineage cells, together with the lack of expression on progenitor cells, makes CD20 antigen an interesting target for (antibody-based) immunotherapy for B cell lymphoid malignancies. Moreover, CD20 antigen is expressed at relatively high density on most normal and malignant B cells and it is not susceptible to antibody induced modulation. A series of heavy chain switch variants has been isolated from a new B cell-specific monoclonal antibody belonging in the CD20 cluster. The antibodies NKI-B20/1, NKI-B20/2b, and NKI-B20/2a (of isotype IgG1, IgG2b, and IgG2a, respectively) have been used to study the influence of isotype and of the target

antigen on the capacity to mediate cytotoxicity with a number of effector mechanisms. Unlike many Mouse MAbs, NKI-B20/2b and NKI-B20/2a are cytolytic with Human complement on Human target cells that did not express the complement regulatory factor HRF20. All 3 isotypes of NKI-B20 mediated antibody-dependent cell-mediated cytotoxicity (ADCC) with rIL-2-activated NK cells from Mouse spleen. Here the antigen density seemed the most important factor in determining the level of cell kill. With Mouse peritoneal macrophages as effector cells again all 3 isotypes of NKI-B20 mediated cytotoxicity. For the IgG1 and IgG2b variants of NKI-B20 this is at variance to what has been reported for MAbs of other specificities. Despite the high activity with murine effector cells none of the NKI-B20 MAbs mediated ADCC with Human peripheral blood NK cells, with or without stimulation with rIL-2, due to the lack of interaction of the murine MAbs with the Human Fc receptor. The CD20 antigen appears to be a good target antigen for various forms of cytotoxicity, to which its relatively high antigenic density, its resistance to antibody-induced modulation, and its unusual structure all contribute.

Source

NKI-B20 is a combination of three switch variants Mouse monoclonal (IgG1, IgG2a, IgG2b) antibody derived by fusion of SP2/0 Mouse myeloma cells with spleen cells from a BALB/c Mouse immunized with Daudi cells (Burkitt lymphoma).

Product

Each vial contains 100 ul 1 mg/ml purified monoclonal antibody in PBS containing 0.09% sodium azide.

Applications

NKI-B20 is used in research and Human diagnostics, cell separation for research or clinical application. NKI-B20 is useful for ELISA, immunoprecipitation, flow cytometry and immunohistochemistry on frozen sections. Optimal antibody dilution should be determined by titration.

Specificity

See Background.

Storage

Store at 4°C, or in small aliquots at -20°C.

References

1. Hooijberg E, Sein JJ, Van den Berk PCM, and Hekman A: Characterization of a series of isotype switch variants of a new Clustered in CD20 cluster in 5th Workshop CD20 monoclonal antibody. *Hybridoma* 1996;15(1):23-31.

Caution

This product is intended FOR RESEARCH USE ONLY, and FOR TESTS IN VITRO, not for use in diagnostic or therapeutic procedures involving humans or animals. This product contains sodium azide. To prevent formation of toxic vapors, do not mix with strong acidic solutions. To prevent formation of potentially explosive metallic azides in metal plumbing, always wash into drain with copious quantities of water. This datasheet is as accurate as reasonably achievable, but Nordic-MUBio accepts no liability for any inaccuracies or omissions in this information.

