Leinco Technologies, Inc.
excellence in early discovery research™

Anti-Human CD20 (Rituximab)

Biosimilar Recombinant Human Monoclonal Antibody

Product Information

Product No.:	LT900
Clone:	10F381
RRID:	AB_2894029
Isotype:	Human IgG1κ
Storage:	Sterile 2-8°C

Product Description

Specificity:
This non-therapeutic biosimilar antibody uses the same variable region sequence as the therapeutic antibody Rituximab. Clone 10F381 recognizes human CD20. This product is for research use only.

Antigen Distribution:
CD20 is primarily found on the surface of immune system B cells. CD20 is highly expressed in the lymph node, and to a lesser extent, the spleen and appendix.

Background:
CD20 is a nonglycosylated 33-37 kDa transmembrane-spanning phosphoprotein that is a member of the MS4A family which is widely expressed on normal B cell surfaces during all stages of development as well as by most B cell malignancies[1, 2]. The biological role of CD20 remains poorly understood; however, it is thought to be involved in calcium ion influx. CD20 has no natural ligand and is not immediately internalized upon antibody binding. Thus, mAbs directed against CD20 depend on the recruitment of a host response. CD20 is a popular target for mAb therapy because depleting developing B-cells generally does not cause permanent side effects (due to the fact that mature plasma cells and B-cell progenitors do not express CD20 and that there is limited expression of CD20 among other cell lineages).

Rituximab is a chimeric monoclonal antibody that binds to CD20. Rituximab is used to treat some autoimmune diseases and types of cancer such as non-Hodgkin lymphoma, chronic lymphocytic leukemia, and rheumatoid arthritis among others. The Fc portion of Rituximab mediates antibody-dependent cellular cytotoxicity (ADCC) and complement-dependent cytotoxicity (CDC). Rituximab increases MHC II and adhesion molecules LFA-1 and LFA-3 (lymphocyte function-associated antigen) and also induces apoptosis of CD20+ cells. This ultimately results in the elimination of B cells (including the cancerous ones) from the body, and thus allows a new population of healthy B cells to develop from lymphoid stem cells. Anti-Human CD20 (Rituximab) utilizes the same variable regions from the therapeutic antibody Rituximab making it ideal for research projects.

Known Reactivity Species:
Human

Expression Host:
HEK-293 Cells

Format:
Purified No Carrier Protein

Immunogen:
Human CD20

Formulation

This biosimilar antibody is aseptically packaged and formulated in 0.01 M phosphate buffered saline (150 mM NaCl) PBS pH 7.2 - 7.4 with no carrier protein, potassium, calcium or preservatives added. Due to inherent biochemical properties of

antibodies, certain products may be prone to precipitation over time. Precipitation may be removed by aseptic centrifugation and/or filtration.

Purity
≥95% by SDS Page, ≥95% monomer by analytical SEC

Endotoxin
< 1.0 EU/mg as determined by the LAL method

Storage and Stability
Functional grade preclinical antibodies may be stored sterile as received at 2-8°C for up to one month. For longer term storage, aseptically aliquot in working volumes without diluting and store at ≤ -70°C.
Avoid Repeated Freeze Thaw Cycles.

Product Preparation
Recombinant biosimilar antibodies are manufactured in an animal free facility using only *in vitro* protein free cell culture techniques and are purified by a multi-step process including the use of protein A or G to assure extremely low levels of endotoxins, leachable protein A or aggregates.

Pathogen Testing
To protect mouse colonies from infection by pathogens and to assure that experimental preclinical data is not affected by such pathogens, all of Leinco's recombinant biosimilar antibodies are tested and guaranteed to be negative for all pathogens in the IDEXX IMPACT I Mouse Profile.
Other Applications Reported in Literature:
ELISA,
FA,
FC,
IP,
WB

Country of Origin
USA

References
1. Middleton O, Wheadon H, Michie AM. Classical Complement Pathway. In MJH Ratcliffe (Ed.), Reference Module in Biomedical Sciences Encyclopedia of Immunobiology Volume 2 (pp. 318-324). Elsevier. 2016.
2. Freeman CL, Sehn LH. Br J Haematol. 182(1):29-45. 2018.
3. Mato, A. *et al.* (2018) *Oncologist.* **23**(3):288-296.
4. Richards, K. *et al.* (2018) *Front Oncol.* **8**: 163.

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