Leinco Technologies, Inc.
excellence in early discovery research™

Human CD20 (Obinutuzumab) Antibody

Purified No Carrier Protein

Biosimilar Recombinant Human Monoclonal Antibody

Product Information

Product No.:	LT906
Clone:	GA101
RRID:	AB_2894029
Isotype:	Human IgG1κ
Storage:	Sterile 2-8°C

Product Description

Specificity:
Obinutuzumab (GA101) activity is directed against human CD20.

Antigen Distribution:
CD20 is a general B cell marker expressed by the majority of normal B cells in all stages of their development as well as by most B cell malignancies.

Background:
CD20 is a nonglycosylated 33-37 kDa phosphoprotein 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. Anti-CD20 mAbs bind to the 44 amino acid extracellular portion.

Obinutuzumab (GA101) is a new generation, type II, anti-CD20 antibody[2]. Obinutuzumab was humanized by grafting the complementarity-determining sequences of murine IgG1-κ antibody B-Ly1 onto human VH and VL acceptor frameworks[3]. The Fc segment was glycoengineered to attach bisected, complex, nonfucosylated oligosaccharides to asparagine 297, leading to increased affinity to FcgRIII.

Obinutuzumab causes homotypic adhesion[4,5,6], induces direct cell death via largely caspase-independent mechanisms[4,6,7,8,9], does not localize into lipid rafts[4,10,11], displays half-maximal CD20 binding at saturating conditions[7], and displays minimal complement dependent cytotoxicity[7].

Compared to rituximab, obinutuzumab recognizes a distinct but overlapping CD20 epitope, in a different orientation that results in increased pro-apoptotic potential[12,13,14]. A modified elbow-hinge residue, characterized by a leucine to valine mutation at Kabat position 11, is key to superior phosphatidylserine exposure and cell death relative to rituximab[3].

Known Reactivity Species:
Human

Expression Host:
HEK-293 Cells

Format:
Purified No Carrier Protein

Immunogen:
Human lymphoblastoid cell line SB.

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
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