Catalog # CD0-M36



#### Source

Rituximab biosimilar is a chimeric monoclonal antibody recombinantly expressed from HEK293, which combines the variable region of a mouse monoclonal antibody with Human constant domain.

#### Isotype

Human IgG1 | Human Kappa

**Antibody Type** 

Recombinant Monoclonal

Reactivity

Human

Immunogen

CD20.

## Specificity

Rituximab is a genetically engineered chimeric murine / human monoclonal IgG1 kappa antibody directed against the CD20 antigen.

## Application

Application R	ecommended Usage
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ELISA

0.2-39 ng/mL

## Purity

>95% as determined by SDS-PAGE.

>95% as determined by SEC-MALS.

## Purification

Protein A purified/ Protein G purified

## Formulation

Lyophilized from 0.22  $\mu$ m filtered solution in PBS, pH7.4 with trehalose as protectant.

Contact us for customized product form or formulation.

#### Reconstitution

Please see Certificate of Analysis for specific instructions.

For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.

#### Storage

For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 6 months under sterile conditions after reconstitution.

# SDS-PAGE



## **SEC-MALS**



Rituximab biosimilar on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95% (With <u>Star Ribbon Pre-stained Protein Marker</u>).

The purity of Rituximab biosimilar (Cat. No. CD0-M36) is more than 95% and the molecular weight of this protein is around 135-160 kDa verified by SEC-MALS. Report

**Bioactivity-ELISA** 





# Rituximab biosimilar-Research Grade (MALS verified)

Catalog # CD0-M36





Immobilized Rituximab biosimilar (Cat. No. CD0-M36) at 2  $\mu$ g/mL (100  $\mu$ L/well) can bind Human CD20 Full Length Protein, His Tag (Cat. No. CD0-H52H3) with a linear range of 0.2-10 ng/mL (QC tested).

## Background

B-lymphocyte antigen CD20 is also known as B-lymphocyte surface antigen B1, Leukocyte surface antigen Leu-16, Membrane-spanning 4-domains subfamily A member 1 and MS4A1, is an activated-glycosylated phosphoprotein expressed on the surface of all B-cells beginning at the pro-B phase (CD45R+, CD117+) and progressively increasing in concentration until maturity. CD20 is expressed on all stages of B cell development except the first and last; it is present from late pro-B cells through memory cells, but not on either early pro-B cells or plasma blasts and plasma cells. It is found on B-cell lymphomas, hairy cell leukemia, B-cell chronic lymphocytic leukemia, and melanoma cancer stem cells. The protein has no known natural ligand and its function is to enable optimal B-cell immune response, specifically against T-independent antigens. It is suspected that it acts as a calcium channel in the cell membrane. CD20 / MS4A1 is the target of the monoclonal antibodies (mAb) rituximab, Ibritumomab tiuxetan, and tositumomab, which are all active agents in the treatment of all B cell lymphomas and leukemias. Defects in CD20 / MS4A1 are the cause of immunodeficiency common variable type 5 (CVID5); also called antibody deficiency due to CD20 defect. CVID5 is a primary immunodeficiency characterized by antibody deficiency, hypogammaglobulinemia, recurrent bacterial infections and an inability to mount an antibody response to antigen.

## **Clinical and Translational Updates**



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