



**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	Recommended Usage
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 µm 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**

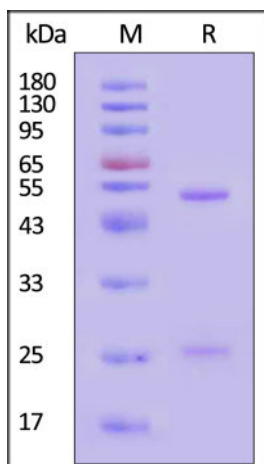
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

*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.

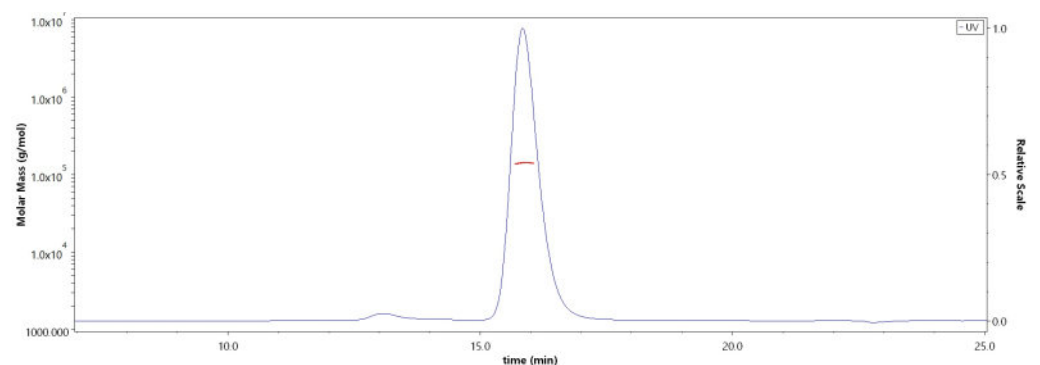
**SDS-PAGE**



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 [Star Ribbon Pre-stained Protein Marker](#)).

**Bioactivity-ELISA**

**SEC-MALS**

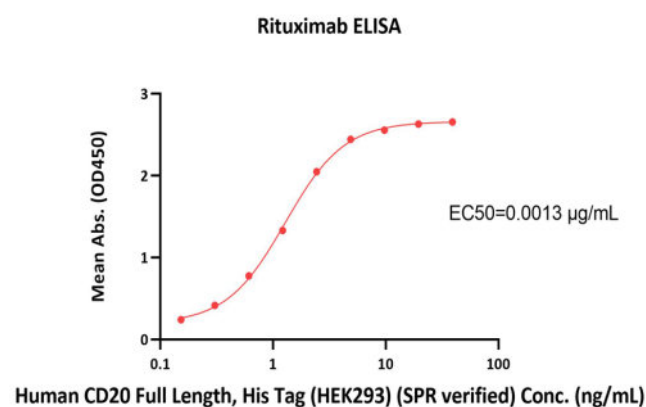


The purity of Rituximab biosimilar (Cat. No. CD0-M36) is more than 95% and the molecular weight of this protein is around 135-160 kDa verified by SEC-MALS.

[Report](#)

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Immobilized Rituximab biosimilar (Cat. No. CD0-M36) at 2 µg/mL (100 µL/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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