

**Synonym**

CD19, B4, CVID3, MGC12802

Source

Human CD19 (20-291), His Tag(CD9-H52H2) is expressed from human 293 cells (HEK293). It contains AA Pro 20 - Lys 291 (Accession # [P15391-1](#)).

Predicted N-terminus: Pro 20

Molecular Characterization

**CD19(Pro 20 - Lys 291)
P15391-1**

Poly-his

This protein carries a polyhistidine tag at the C-terminus.

The protein has a calculated MW of 32.0 kDa. The protein migrates as 43 kDa and 45-55 kDa when calibrated against [Star Ribbon Pre-stained Protein Marker](#) under reducing (R) condition (SDS-PAGE) due to glycosylation.

Endotoxin

Less than 1.0 EU per μ g by the LAL method / rFC method.

Purity

>90% as determined by SDS-PAGE.

Formulation

Lyophilized from 0.22 μ 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.

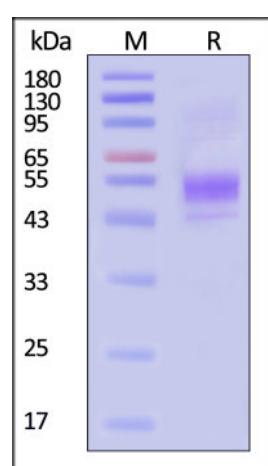
Storage

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

Human CD19 (20-291), His Tag on SDS-PAGE under reducing (R) condition.

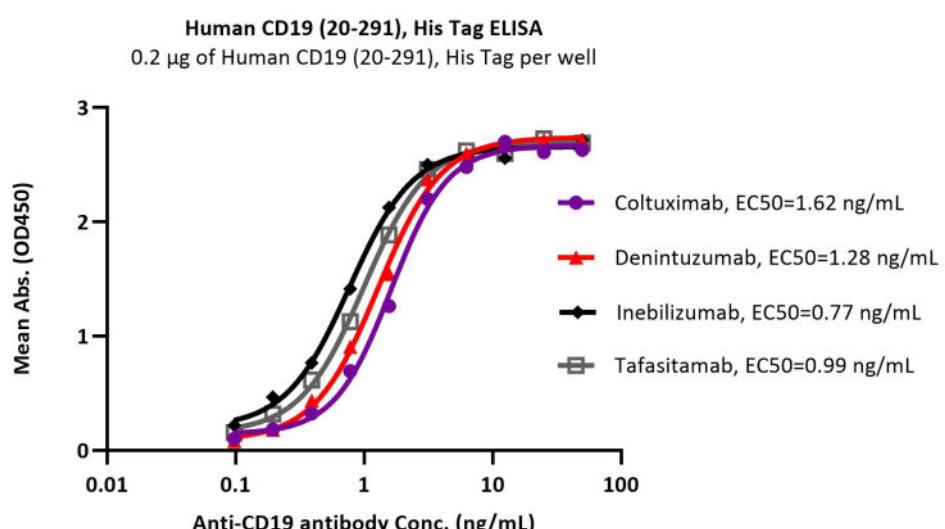
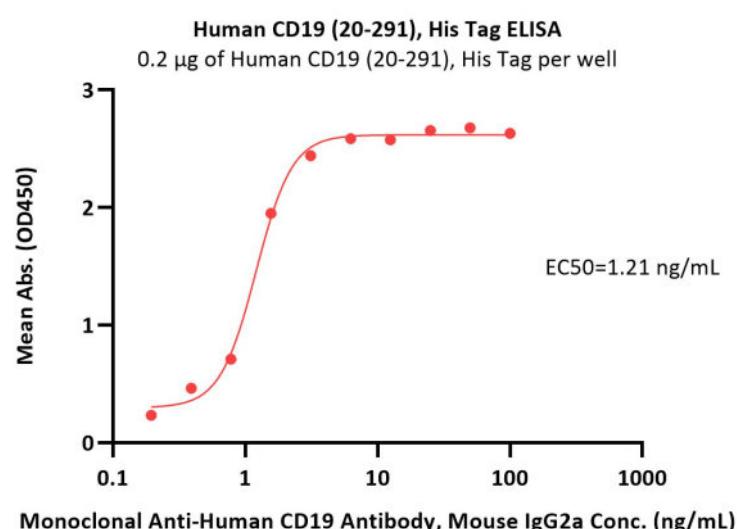
The gel was stained with Coomassie Blue. The purity of the protein is greater than 90% (With [Star Ribbon Pre-stained Protein Marker](#)).

Bioactivity-ELISA

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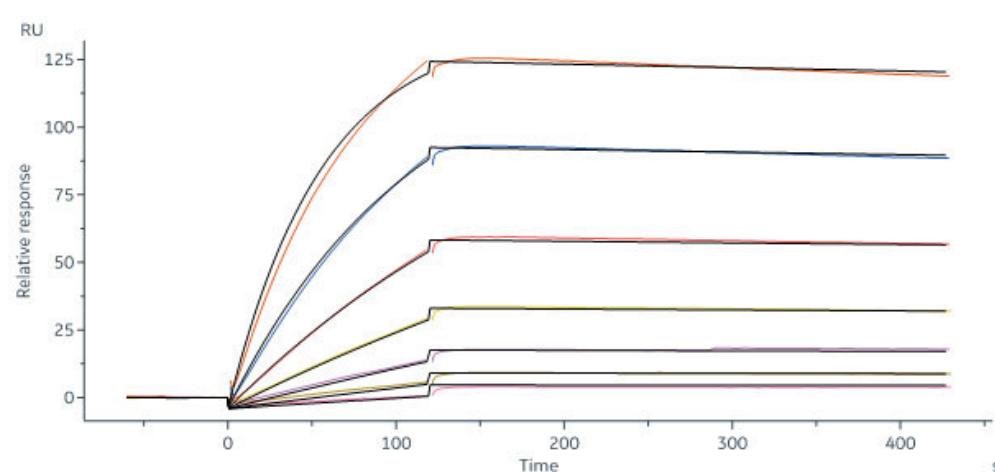
» www.acrobiosystems.com



Immobilized Human CD19 (20-291), His Tag (Cat. No. CD9-H52H2) at 2 μ g/mL (100 μ L/well) can bind Monoclonal Anti-Human CD19 Antibody, Mouse IgG2a with a linear range of 0.2-3 ng/mL (QC tested).

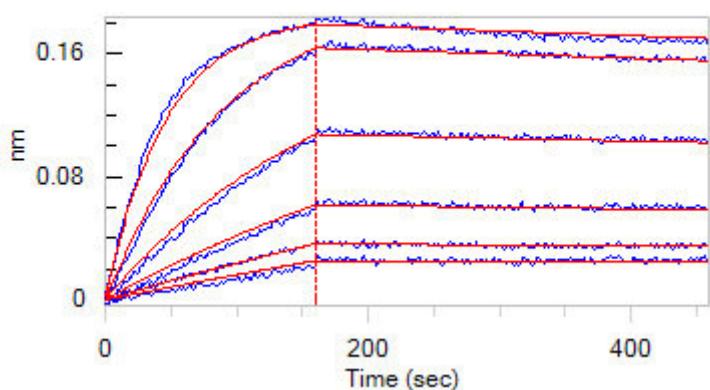
Immobilized Human CD19 (20-291), His Tag (Cat. No. CD9-H52H2) at 2 μ g/mL (100 μ L/well) can bind different Anti-CD19 antibodies with high affinity (Routinely tested).

Bioactivity-SPR

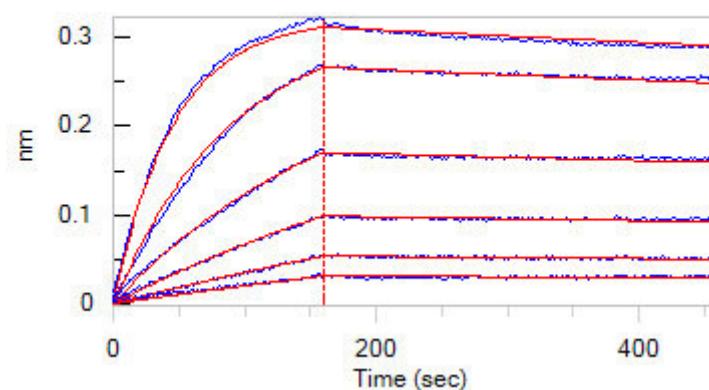


FMC63 MAb (Mouse IgG2a) captured on CM5 chip via anti-mouse antibodies surface can bind Human CD19 (20-291), His Tag (Cat. No. CD9-H52H2) with an affinity constant of 2.9 nM as determined in a SPR assay (Biacore 8K) (QC tested).

Bioactivity-BLI



Loaded Monoclonal Anti-Human CD19 Antibody, Mouse IgG2a on AMC Biosensor, can bind Human CD19 (20-291), His Tag (Cat. No. CD9-H52H2) with an affinity constant of 3.19 nM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).



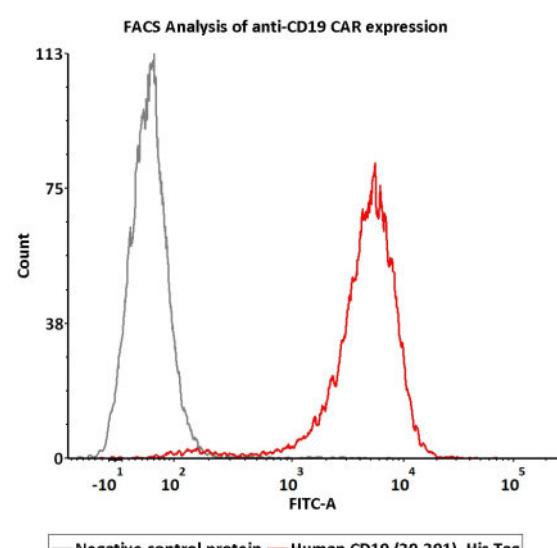
Loaded Monoclonal Anti-Human CD19 Antibody, Human IgG1 on AHC Biosensor, can bind Human CD19 (20-291), His Tag (Cat. No. CD9-H52H2) with an affinity constant of 4.28 nM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).

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Bioactivity-FACS



2e5 of anti-CD19 CAR-293 cells were stained with 100 μ L of 10 μ g/mL of Human CD19 (20-291), His Tag (Cat. No. CD9-H52H2) and negative control protein respectively, washed and then followed by FITC anti-His tag antibody and analyzed with FACS (Routinely tested).

Background

B-lymphocyte antigen CD19 is also known as CD19 (Cluster of Differentiation 19), is a single-pass type I membrane protein which contains two Ig-like C2-type (immunoglobulin-like) domains. CD19 is expressed on follicular dendritic cells and B cells. In fact, it is present on B cells from earliest recognizable B-lineage cells during development to B-cell blasts but is lost on maturation to plasma cells. It primarily acts as a B cell co-receptor in conjunction with CD21 and CD81. Upon activation, the cytoplasmic tail of CD19 becomes phosphorylated, which leads to binding by Src-family kinases and recruitment of PI-3 kinase. As on T cells, several surface molecules form the antigen receptor and form a complex on B lymphocytes. The (almost) B cell-specific CD19 phosphoglycoprotein is one of these molecules. The others are CD21 and CD81. These surface immunoglobulin (sIg)-associated molecules facilitate signal transduction. On living B cells, anti-immunoglobulin antibody mimicking exogenous antigen causes CD19 to bind to sIg and internalize with it. The reverse process has not been demonstrated, suggesting that formation of this receptor complex is antigen-induced. This molecular association has been confirmed by chemical studies. Mutations in CD19 are associated with severe immunodeficiency syndromes characterized by diminished antibody production. CD19 has been shown to interact with: CD81, CD82, Complement receptor 2, and VAV2.

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