

Fluorescent Human CD20 Full Length Protein (VLP)

Catalog # CDP-HF2P8



Synonym

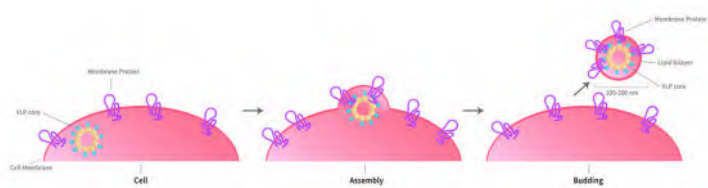
MS4A1,CD20,MS4A-1

Source

Fluorescent Human CD20 Full Length Protein-VLP(CDP-HF2P8) is expressed from human 293 cells (HEK293). It contains AA Met 1 - Pro 297 (Accession # [NP_068769.2](#)).
Predicted N-terminus: Met 1

Molecular Characterization

This protein carries a GFP tag.
Virus-like particles(VLPs) are formed by self-assembly of envelop/capsid proteins from viruses. Membrane Proteins can be constituted in-situ with VLPs produced from HEK293 cell cultures. These VLPs concentrate conformationally intact membrane proteins directly on the cell surface and produce soluble, high-concentration proteins perfect for immunization and antibody screening.



The VLPs provide the display of properly folded membrane proteins in their native cellular membrane in a compact size of 100~300 nm diameter (similar to the size of most viruses) making it optimal targets for dendritic cells in vivo and surface attachment for phage display.

Conjugate

GFP
Excitation source: 488 nm spectral line, argon-ion laser
Excitation Wavelength: 488 nm
Emission Wavelength: 530 nm

Endotoxin

Less than 1.0 EU per µg by the LAL method.
*The isotype control of empty/mock VLP (Cat. No. [VLP-NF2P4](#)) is sold separately and not included in protein, you can follow [this link](#) for product information.

Formulation

The VLPs are highly immunogenic, so the immunization strategy should be optimized (antigen dose, regimen and adjuvant).
Supplied as 0.2 µm filtered solution in PBS, pH7.4 with trehalose as protectant.
Contact us for customized product form or formulation.

Shipping

This product is supplied and shipped with dry ice, please inquire the shipping cost.

Storage

Please protect from light and avoid repeated freeze-thaw cycles.
This product is stable after storage at:

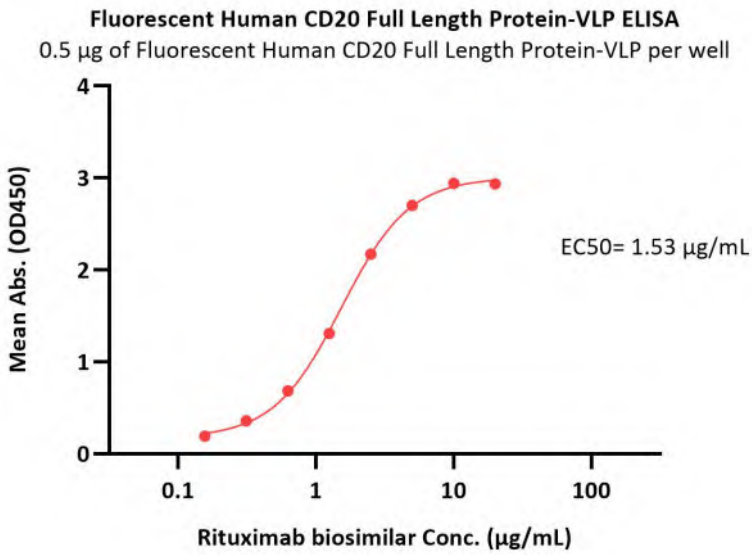
- The product MUST be stored at -70°C or lower upon receipt;
- -70°C for 12 months under sterile conditions.

Bioactivity-ELISA

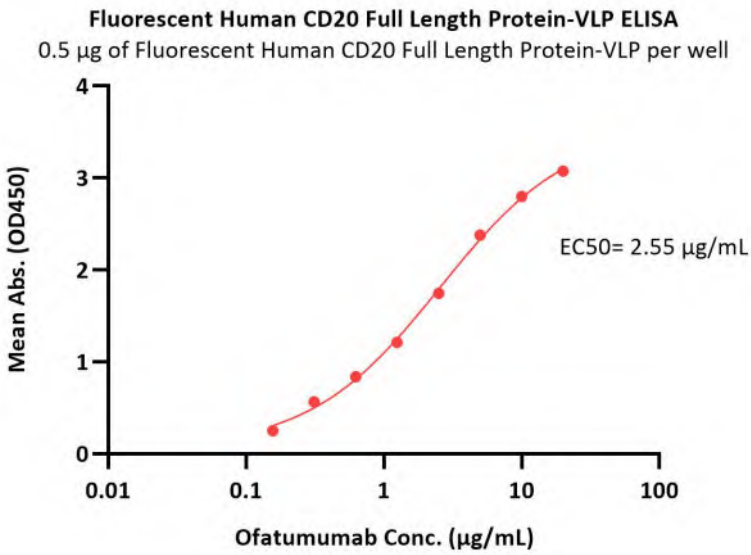


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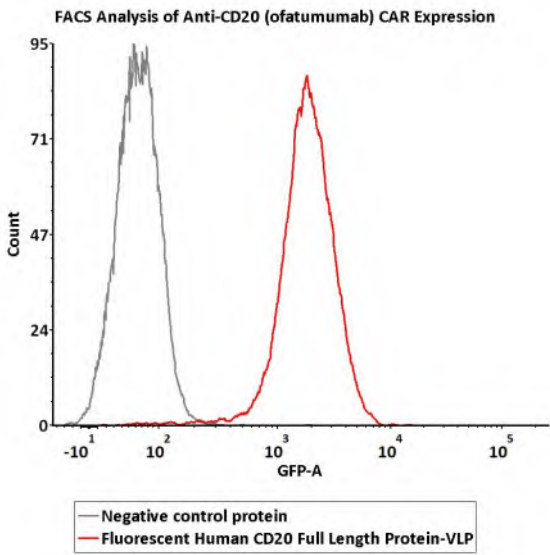


Immobilized Fluorescent Human CD20 Full Length Protein-VLP (Cat. No. CDP-HF2P8) at 5 µg/mL (100 µL/well) can bind Rituximab biosimilar (Cat. No. CD0-M36) with a linear range of 0.2-3 µg/mL (QC tested).



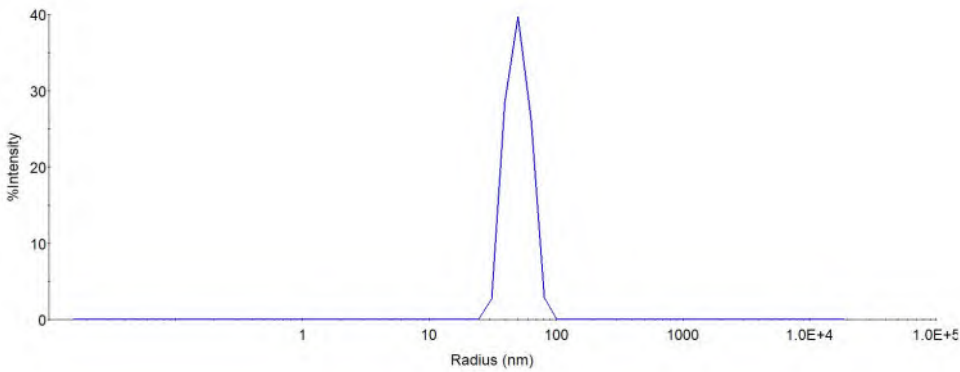
Immobilized Fluorescent Human CD20 Full Length Protein-VLP (Cat. No. CDP-HF2P8) at 5 µg/mL (100 µL/well) can bind Ofatumumab with a linear range of 0.2-3 µg/mL (QC tested).

Bioactivity-FACS



2e5 of anti-CD20 (ofatumumab) CAR-293 cells were stained with 100 µL of 10 µg/mL of Fluorescent Human CD20 Full Length Protein-VLP (Cat. No. CDP-HF2P8) and negative control protein respectively. GFP signal was used to evaluate the binding activity (QC tested).

Identity-DLS



The mean peak Radius of VLP is 50-70 nm with more than 95% intensity as determined by dynamic light scattering (DLS).



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BIOSYSTEMS
Acro

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

