

## CD19 Protein, Human, Recombinant (His), AF647-Labeled

### General Information

Synonyms:	B4;CVID3
Protein Construction:	A DNA sequence encoding the extracellular domain (Met1-Lys291) of human CD19 (P15391-1) was expressed with a C-terminal polyhistidine tag. The protein is site-specifically conjugated with AF 647 (Excitation Max.= 655 nm, Emission Max.= 680 nm).
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P15391-1
Molecular Weight:	31.6 kDa (predicted)

### QC Testing

Biological Activity:	<ol style="list-style-type: none"><li>1. Flow cytometric analysis of anti-CD19 CAR expression. 293 cells were lentivirally transduced with anti-CD19 CAR. Flow cytometric analysis was performed with a negative control protein and CD19 Protein, Human, Recombinant (His), AF647-Labeled (Cat#TMPY-07083), respectively. Non-transduced 293 cells were used as a control (left).&lt;br&gt;</li><li>2. Binding activity of AF 647-conjugated CD19 protein to PBMC cells. PBMC cells were stained with anti-CD3 antibody and CD19 Protein, Human, Recombinant (His), AF647-Labeled (Cat#TMPY-07083) and detected by flow cytometry. PBMC cells stained with anti-CD3 antibody were used as a control (left).&lt;br&gt;</li><li>3. Loaded Biotinylated Inebilizumab on SA Biosensor, can bind CD19 Protein, Human, Recombinant (His), AF647-Labeled (Cat#TMPY-07083) with an affinity constant of 0.651 nM as determined in BLI assay (Sartorius Octet RED384) (Routinely tested).</li></ol>
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	This product is Lyophilized from sterile PBS, pH 7.4, with 5 %-8 % trehalose. Please contact us for any concerns or special requirements. Please refer to the specific buffer information in the hardcopy of datasheet or the lot-specific COA.

### Preparation and Storage

Reconstitution:	Please refer to the lot-specific COA.
Stability & Storage:	Samples are stable for up to twelve months from date of receipt at -20°C to -80°C. Store it under sterile conditions at -20°C to -80°C. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles. <small>Actual storage temperature shall be subject to the COA.</small>
Shipping:	In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

The cluster of differentiation (CD) system is commonly used as cell markers in Immunophenotyping. Different kinds of cells in the immune system can be identified through the surface CD molecules associating with the immune function of the cell. There are more than 320 CD unique clusters and subclusters have been identified. Some of the CD molecules serve as receptors or ligands important to the cell through initiating a signal cascade which then alter the behavior of the cell. Some CD proteins do not take part in cell signal process but have other functions such as cell adhesion. Cluster of differentiation 19 (CD19) is a member of CD system. CD19 is a cell surface molecule that assembles with the antigen receptor of B-cells. This results in a descent in the threshold for antigen receptor-dependent stimulation. A simplified view holds that the ability of B-cells to respond to the various antigens in a specific and sensitive manner is achieved in the presence of low-affinity antigen receptors. CD19 primarily acts as a B-cell co-receptor in conjunction with CD21 and CD81. The formation of the receptor complex is induced by antigen and CD19, induced by exogenous antigen, has been found cytoplasmic tail phosphorylated and bind to slg. Cancer Immunotherapy Immune Checkpoint Immunotherapy Targeted Therapy

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