

**DESCRIPTION**

<b>Source</b>	Chinese Hamster Ovary cell line, CHO-derived human CD19 protein		
	Human CD19 (Glu21- Lys291) Accession # P15391	IEGRMD	Human IgG <sub>1</sub> (Pro100 - Lys330)
	N-terminus		Avi-tag C-terminus
<b>N-terminal Sequence</b>	Glu21		
<b>Analysis</b>			
<b>Structure / Form</b>	Disulfide-linked homodimer, biotinylated via Avi-tag		
<b>Predicted Molecular Mass</b>	59 kDa		

**SPECIFICATIONS**

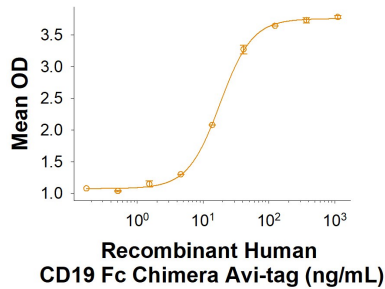
<b>SDS-PAGE</b>	75-95 kDa, under reducing conditions
<b>Activity</b>	Measured by its binding ability in a functional ELISA. When Human CD19 Antibody (FMC63) (Novus Biologicals, Catalog # <a href="#">NBP2-52716</a> ) is immobilized at 0.5 µg/mL (100 µL/well), it binds to Biotinylated Recombinant Human CD19 Fc Chimera Avi-tag (Catalog # AVI9269) with an ED <sub>50</sub> of 7.5-45 ng/mL.
<b>Endotoxin Level</b>	<0.10 EU per 1 µg of the protein by the LAL method.
<b>Purity</b>	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

**PREPARATION AND STORAGE**

<b>Reconstitution</b>	Reconstitute at 500 µg/mL in PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<p><b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 3 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

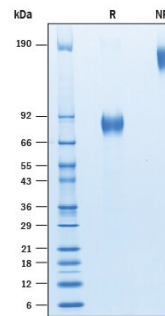
**DATA**

**Binding Activity**



When Human CD19 antibody (FMC63) (Novus Biologicals Catalog # [NBP2-52716](#)) is immobilized at 0.5 µg/mL, 100 µL/well, Recombinant Human CD19 Fc Chimera Avi-tag (Catalog # AVI9269) binds with an ED<sub>50</sub> of 7.5-45 ng/mL.

**SDS-PAGE**



2 µg/lane of Recombinant Human CD19 Fc Chimera Avi-tag (Catalog # AVI9269) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 75-95 kDa and 150-190 kDa, respectively.

## BACKGROUND

CD19 is a 95 kDa transmembrane glycoprotein that plays a central role in B cell activation and humoral immune responses (1, 2). Mature human CD19 consists of a 272 amino acid (aa) extracellular domain (ECD) with two Ig-like domains, a 22 aa transmembrane segment, and a 243 aa cytoplasmic domain (3). Within the ECD, human CD19 shares 57% amino acid sequence identity with mouse and rat CD19. CD19 is expressed throughout B cell development from pre-B cells through mature B cells, and it is commonly used as a B cell lineage marker (1). It is required for the responsiveness of mature B cell to antigen stimulation, germinal center development, and antibody affinity maturation (4, 5). CD19 associates with the B cell antigen receptor (BCR), CD81, CD38, CD21, CD22, and IFITM1/CD225/Leu13, (6-9). These associations enable CD19 to amplify B cell signaling (7, 9-12) and reduce the threshold for antigen stimulation through the BCR (13). CD19 polymorphisms and up-regulation can lead to the development of autoimmunity by promoting autoantibody production (2).

## References:

1. Wang, K. *et al.* (2012) *Exp. Hematol. Oncol.* **1**:36.
2. Tedder, T.F. *et al.* (1997) *Immunity* **6**:107.
3. Tedder, T.F. and C.M. Isaacs (1989) *J. Immunol.* **143**:712.
4. Rickert, R.C. *et al.* (1995) *Nature* **376**:352.
5. Engel, P. *et al.* (1995) *Immunity* **3**:39.
6. Vences-Catalan, F. *et al.* (2012) *J. Immunol.* **137**:48.
7. Deaglio, S. *et al.* (2007) *Blood* **109**:5390.
8. Bradbury, L. *et al.* (1992) *J. Immunol.* **149**:2841.
9. Krop, I. *et al.* (1996) *J. Immunol.* **157**:48.
10. O'Rourke, L.M. *et al.* (1998) *Immunity* **8**:635.
11. Buhl, A.M. *et al.* (1997) *J. Exp. Med.* **186**:1897.
12. Sato, S. *et al.* (1995) *Proc. Natl. Acad. Sci. USA* **92**:11558.
13. Carter, R.H. and D.T. Fearon (1992) *Science* **256**:105.