

**Synonym**

CD19,B4,CVID3,MGC12802

**Source**

Human CD19, Fc Tag (CD9-H5255) is expressed from human 293 cells (HEK293). It contains AA Pro 20 - Pro 278 (Accession # P15391-1).

Predicted N-terminus: Pro 20

**Molecular Characterization**

CD19(Pro 20 - Pro 278) P15391-1	Fc(Pro 100 - Lys 330) P01857
------------------------------------	---------------------------------

This protein carries a human IgG1 Fc tag at the C-terminus.

The protein has a calculated MW of 55.1 kDa. The protein migrates as 66-70 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

**Endotoxin**

Less than 1.0 EU per  $\mu\text{g}$  by the LAL method.

**Purity**

>90% as determined by SDS-PAGE.

**Formulation**

Lyophilized from 0.22  $\mu\text{m}$  filtered solution in Tris with Glycine, Arginine and NaCl, pH7.5. Normally trehalose is added as protectant before lyophilization.

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.*

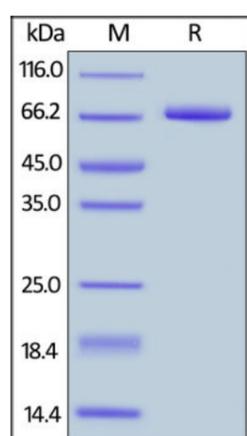
**Storage**

For long term storage, the product should be stored at lyophilized state at  $-20^{\circ}\text{C}$  or lower.

*Please avoid repeated freeze-thaw cycles.*

This product is stable after storage at:

- $-20^{\circ}\text{C}$  to  $-70^{\circ}\text{C}$  for 12 months in lyophilized state;
- $-70^{\circ}\text{C}$  for 3 months under sterile conditions after reconstitution.

**SDS-PAGE**

Human CD19, Fc Tag on SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 90%.

**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.

### References

- (1) [Pesando JM, et al., J. Exp. Med. 170 \(6\): 2159-64.](#)
- (2) [van Zelm MC, et al., 2006, N. Engl. J. Med. 354 \(18\): 1901-12.](#)
- (3) [Bradbury LE, et al., 1992, J. Immunol. 149 \(9\): 2841-50.](#)
- (4) [Horváth G, et al., 1998, J. Biol. Chem. 273 \(46\): 30537-43.](#)
- (5) [Imai T, et al., 1995, J. Immunol. 155 \(3\): 1229-39.](#)
- (6) [Doody GM, et al., 2000, EMBO J. 19 \(22\): 6173-84.](#)

Please contact us via [TechSupport@acrobiosystems.com](mailto:TechSupport@acrobiosystems.com) if you have any question on this product.