Biotinylated Recombinant Human CD19 Fc Chimera

Catalog Number: BT9269

DESCRIPTION

Source

Chinese Hamster Ovary cell line, CHO-derived human CD19 protein

Human CD19 (Glu21-Lys291) Accession # P15391	IEGRMD	Human IgG_1 (Pro100-Lys330)

N-terminus C-terminus

N-terminal Sequence Analysis	Glu21
Structure / Form	Disulfide linked homodimer, Biotinylated via amines
Predicted Molecular Mass	57 kDa

SPECIFICATIONS

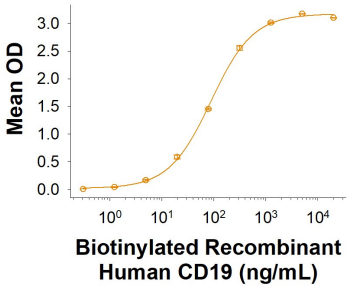
SDS-PAGE	75-90 kDa, under reducing conditions
Activity	Measured by its binding ability in a functional ELISA. Biotinylated Recombinant Human CD19 Fc Chimera binds to Human CD19 Antibody (Catalog # MAB4867) with an ED_{50} of 25.0-250 ng/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 500 µg/mL in water.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 3 months, -20 to -70 °C under sterile conditions after reconstitution.

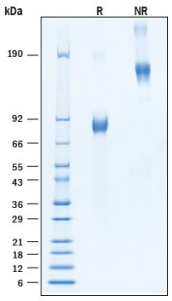
DATA

Binding Activity



Biotinylated Recombinant Human CD19 Fc Chimera Protein Binding Activity. Measured by its binding ability in a functional ELISA. Biotinylated Recombinant Human CD19 Fc Chimera (Catalog # BT9269) binds to Human CD19 Antibody (Catalog # MAB4867) with an ED_{50} of 25.0-250 ng/mL.

SDS-PAGE



Biotinylated Recombinant Human CD19 Fc Chimera Protein SDS-PAGE. 2 µg/lane of Biotinylated Recombinant Human CD19 Fc Chimera Protein (Catalog # BT9269) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 75-90 kDa and 150-180 kDa, respectively.

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BACKGROUND

CD19 protein is a 95 kDa transmembrane glycoprotein that plays a central role in B cell activation and humoral immune responses (1, 2). 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). The CD19 protein 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). CD19 has emerged as promising therapeutic target for hematologic cancers and solid tumors. Immunotherapy using a chimeric antigen receptor (CAR) targeting CD19 has proven effective in many different cancers. The first CD19 CAR T cell therapies have been granted FDA approval for the treatment of B cell malignancies with several more in clinical trials. Mature human CD19 protein 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.

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.

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