Data Sheet (Cat.No.TMPY-06755)

TargetMol

CD19 Protein, Human, Recombinant (His & Avi), Biotinylated

General Information

Synonyms: B4;CD19 molecule;CVID3

Protein Construction: Pro20-Lys291

Species: Human

Expression Host: HEK293 Cells

Accession: P15391-1

Molecular Weight: 36 kDa (predicted); 50-65 kDa (reducing conditions)

QC Testing

Biological Activity: Immobilized Biotinylated Human CD19, His-Avi Tag at 2μg/ml (100μl/well) on the streptavidin precoated plate (5μg/ml). Dose response curve for Coltuximab, hFc Tag with the EC50 of 6.6ng/ml determined by ELISA (QC Test).
Immobilized Biotinylated Human CD19, His Tag at 2μg/ml (100μl/well) on the streptavidin precoated plate (5μg/ml). Dose response curve for FMC63, mFc Tag with the EC50 of 11.4 ng/ml determined by ELISA.
Anti-CD19 Antibody, hFc Tag captured on CM5 Chip via Protein A can bind Biotinylated Human CD19, His Tag with an affinity constant of 0.64 nM as determined in SPR assay (Biacore T200).
Loaded Coltuximab on ProA-Biosensor can bind Biotinylated Human CD19, His-Avi Tag with an affinity constant of 4.53 nM as determined in BLI assay (Gator® Prime).
Loaded Inebilizumab on ProA-Biosensor can bind Biotinylated Human CD19, His-Avi Tag with an affinity constant of 11.00 nM as determined in BLI assay (Gator® Prime).
Loaded Denintuzumab on ProA-Biosensor can bind Biotinylated Human CD19, His-Avi Tag with an affinity constant of4.70 nM as determined in BLI assay (Gator® Prime).

Purity: ≥ 95 % as determined by SDS-PAGE.

Endotoxin: < 1.0 EU/μg of the protein as determined by the LAL method.

Formulation: Lyophilized from 0.22 μm filtered solution in PBS (pH 7.4). Normally 8% trehalose is added as protectant before lyophilization.

Preparation and Storage

Reconstitution:

Reconstitute the lyophilized protein in distilled water. The product concentration should not be less than 100 μg/ml. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-

thaw cycles and store products in aliquots.
Actual storage temperature shall be subject to the COA.

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 sIg.Cancer ImmunotherapyImmune CheckpointImmunotherapyTargeted Therapy

Reference

Zola H,et al.(2007) CD molecules 2006-human cell differentiation molecules. J Immunol Methods. 318 (1-2): 1-5.
Ho IC,et al.(2009) GATA3 and the T-cell lineage: essential functions before and after T-helper-2-cell differentiation. Nat Rev Immunol. 9 (2): 125-35.
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Carter RH,et al.(1992) CD19: lowering the threshold for antigen receptor stimulation of B lymphocytes. Science. 256 (5053): 105-7.