



## Source

Biotinylated Monoclonal Anti-G4S linker Antibody, Rabbit IgG (016), premium grade is a rabbit monoclonal antibody recombinantly expressed from human 293 cells (HEK293), it shows superior performance in various applications such as ELISA assays and flow cytometry assays with higher affinity and better specificity.

*It is produced under our rigorous quality control system that incorporates a comprehensive set of tests including sterility and endotoxin tests. Product performance is carefully validated and tested for compatibility for cell culture use or any other applications in the early preclinical stage. When ready to transition into later clinical phases, we also offer a custom GMP protein service that tailors to your needs. We will work with you to customize and develop a GMP-grade product in accordance with your requests that also meets the requirements for raw and ancillary materials use in cell manufacturing of cell-based therapies.*

## Isotype

Rabbit IgG | Rabbit Kappa

## Conjugate

Biotin

## Specificity

Specifically recognizes the scFv-based CARs containing a G4S linker.

## Endotoxin

Less than 0.01 EU per µg by the LAL method.

## Sterility

Negative

## Mycoplasma

Negative.

## Formulation

Lyophilized from 0.22 µm filtered solution in PBS, 0.2% rHSA, pH7.4 with trehalose as protectant.

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

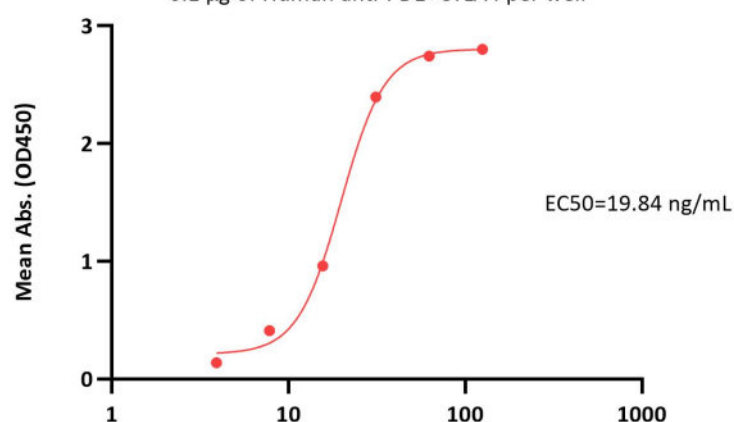
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

This product is stable after storage at:

- -20°C to -70°C for 24 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

## Bioactivity-ELISA

Biotinylated Monoclonal Anti-G4S linker Antibody, Rabbit IgG (016), premium grade ELISA  
0.1 µg of Human anti-PD1×CTLA4 per well



Biotinylated Monoclonal Anti-G4S linker Antibody, Rabbit IgG (016), premium grade Conc. (ng/mL)

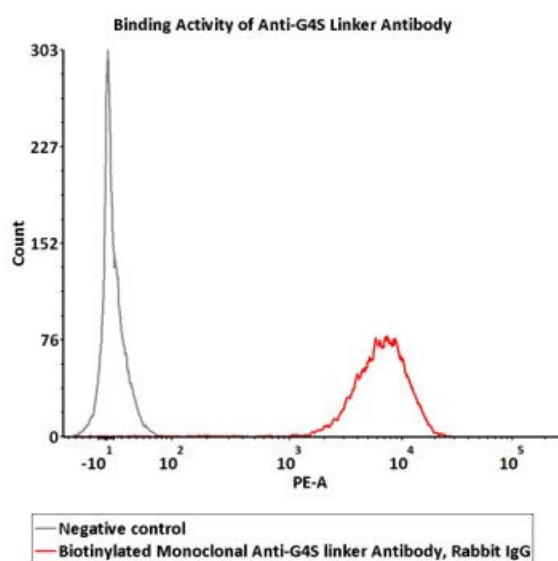
Immobilized Human anti-PD1×CTLA4 at 1 µg/mL (100 µL/well) can bind Biotinylated Monoclonal Anti-G4S linker Antibody, Rabbit IgG (016), premium grade (Cat. No. G4S-BLM25G0) with a linear range of 1.9-32 ng/mL (Routinely tested).

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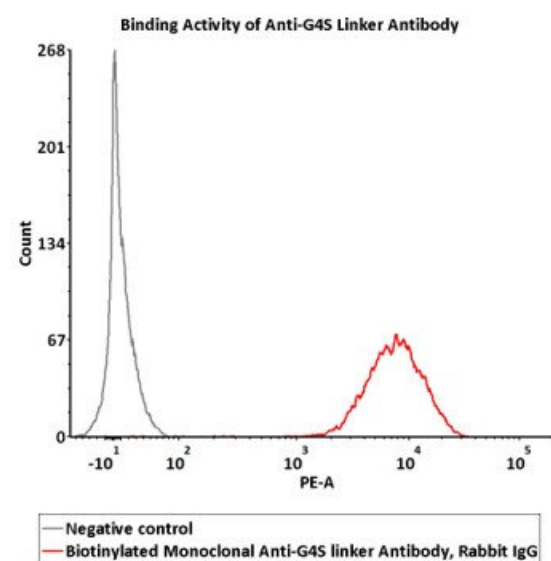




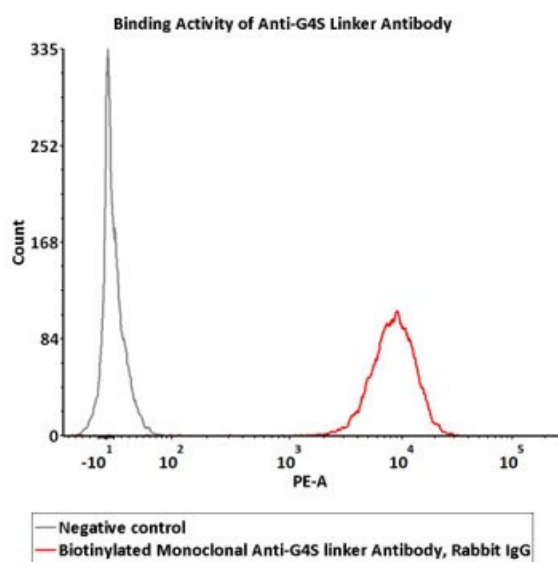
**Bioactivity-FACS**



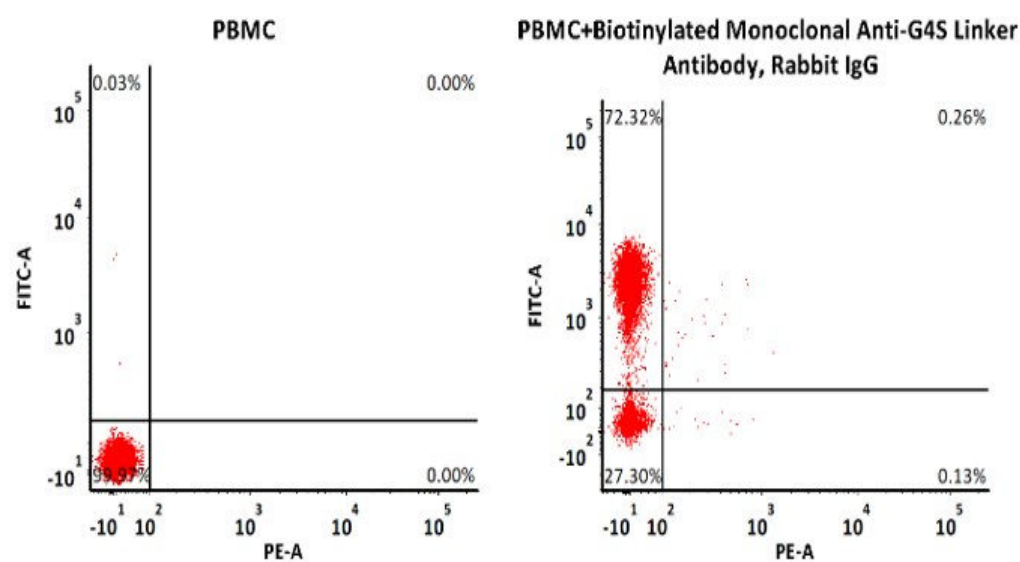
Flow cytometric analysis of Anti-MSLN CAR-293 cells staining with Biotinylated Monoclonal Anti-G4S linker Antibody, Rabbit IgG (016), premium grade (Cat. No. G4S-BLM25G0) at 3 µg/mL (0.3 µg corresponds to labeling of 1e6 cells in a final volume of 100 µL) and PE-SA. PE signal was used to evaluate the binding activity (QC tested).



Flow cytometric analysis of Anti-CD22 CAR-293 cells staining with Biotinylated Monoclonal Anti-G4S linker Antibody, Rabbit IgG (016), premium grade (Cat. No. G4S-BLM25G0) at 3 µg/mL (0.3 µg corresponds to labeling of 1e6 cells in a final volume of 100 µL) and PE-SA. PE signal was used to evaluate the binding activity (Routinely tested).



Flow cytometric analysis of Anti-CD19 CAR-293 cells staining with Biotinylated Monoclonal Anti-G4S linker Antibody, Rabbit IgG (016), premium grade (Cat. No. G4S-BLM25G0) at 3 µg/mL (0.3 µg corresponds to labeling of 1e6 cells in a final volume of 100 µL) and PE-SA. PE signal was used to evaluate the binding activity (Routinely tested).



Non-specificity of Biotinylated Monoclonal Anti-G4S linker Antibody, Rabbit IgG (016), premium grade (Cat. No. G4S-BLM25G0) binding to CD3+ cells present in human PBMC. 5e5 of human PBMCs were simultaneously stained with FITC-labeled anti-CD3 antibody and Biotinylated Monoclonal Anti-G4S linker Antibody, Rabbit IgG (016), premium grade (0.3 µg corresponds to labeling of 5e5 cells in a final volume of 100 µL) and washed and then analyzed with FACS. Both FITC and PE positive signals was used to evaluate the non-specific binding activity to human CD3+ cells (QC tested).

**Background**

The poly-Glycine-Serine (G4S) linker is a type of flexible, unstructured synthetic peptide linker sequence often leveraged to connect the variable heavy (VH) domain and variable light (VL) domain of single-chain variable fragments (scFvs) and chimeric antigen receptors (CARs) that utilize an extracellular domain scFv for target antigen recognition. The linker itself consists of a core pentapeptide sequence, Gly-Gly-Gly-Gly-Ser, that is repeated and commonly found as either a 15-mer (G4S)<sub>3</sub> or 20-mer (G4S)<sub>4</sub> within scFv-based CARs and scFv fragments. The linker sequence length plays a role in controlling scFv stability and the noncovalent association between the VH and VL domains.

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