Leader in Biomolecular Solutions for Life Science

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Rabbit anti-human IgG1 FC (DLE mutation) Specific Monoclonal Antibody, Clone 4B6

Catalog No.: YR0511

Basic Information

Molecular Weight

Endotoxin
<1EU/mg (<0.001EU/μg)Determined by LAL gel clotting assay

Sterility

Aggregation

Purity

Background

The DLE mutation (Ser239Asp/Ile332Glu/Ala330Leu) in the IgG Fc region is a crucial modification in antibody engineering designed to optimize antibody effector functions and stability. This mutation enhances the binding to FcγRIIIa by introducing additional hydrogen bonds that separate the CH2 domain of the Fc segment. Consequently, it significantly boosts antibody-dependent cell-mediated cytotoxicity (ADCC), bolstering the cytotoxic effect of natural killer (NK) cells on target cells. The Ala330Leu substitution within the DLE mutation reduces binding to complement protein C1q, thereby diminishing complement-dependent cytotoxicity (CDC) mediated by the antibody, which helps mitigate non-specific inflammatory responses. Introducing the DLE mutation into the antibody's heavy chain also markedly enhances its stability and solubility. This mutation has been successfully applied in optimizing various therapeutic antibodies, markedly improving their efficacy and stability.

Reported Applications

ELISA

Immunogen Information

Clone

Isotype

Immunogen

RecommendedIsotype Control(s)

Recommended Dilution Buffer

Contact

400-999-6126

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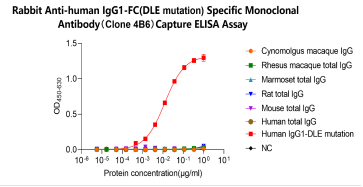
Product Information

Production
Purified from cell culture supernatant in an animal-free facility

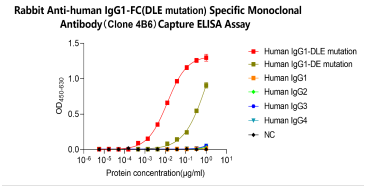
Purification

Storage
Store at 2 - 8℃. 2 - 8°C for up to 4 weeks and -80°C for long term storage (Avoid repeated freezing and thawing)

Validation Data



A microtiter plate was coated overnight with Rabbit Anti-human IgG1-FC (DLE mutation) Specific Monoclonal Antibody (Clone 4B6) at a concentration of 2 μg/mL. After washing and blocking with PBST + 5% skim milk, increasing concentrations of various biotinylated antibodies was added. Horseradish Peroxidase conjμgated Neutravidin, (Thermo Fisher, 31001) was used for final detection.



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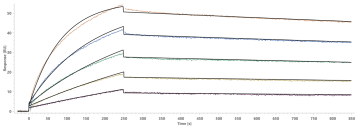

Rabbit Anti-human IgG1-FC (DLE mutation) Specific Monoclonal Antibody (Clone 4B6) captured on Protein A Chip can bind Human IgG1-FC (DLE) mutation with an affinity constant of 0.72 nM as determined in SPR assay.