Recombinant Human IgG1 Protein

Catalog No.: RPT0004

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Sequence Information

Species
Human

Gene ID
3500

Swiss Prot
P01857

Tags
C-His

Synonyms
Human IgG,IGHG1,human IgG (Fc), g gamma-1 chain C region

Product Information

Source
HEK293 cells

Purification
≥ 95 % as determined by SDS-PAGE.

Calculated MW
26.8 kDa

Observed MW
35-40 kDa

Endotoxin
< 0.1 EU/μg of the protein by LAL method.

Formulation
Lyophilized from a 0.22 μm filtered solution of PBS, pH 7.4.

Reconstitution
Centrifuge the vial before opening. Reconstitute to a concentration of 0.1-0.5 mg/mL in sterile distilled water. Avoid vortex or vigorously pipetting the protein. For long term storage, it is recommended to add a carrier protein or stablizer (e.g. 0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose), and aliquot the reconstituted protein solution to minimize free-thaw cycles.

Background

As a monomeric immunoglobulin that is predominately involved in the secondary antibody response and the only isotype that can pass through the human placenta, Immunoglobulin G (IgG) is synthesized and secreted by plasma B cells, and constitutes 75% of serum immunoglobulins in humans. IgG antibodies protect the body against the pathogens by agglutination and immobilization, complement activation, toxin neutralization, as well as antibody-dependent cell-mediated cytotoxicity (ADCC). IgG tetramer contains two heavy chains (5 kDa) and two light chains (25 kDa) linked by disulfide bonds, that is the two identical halves form the Y-like shape. IgG is digested by pepsin proteolysis into Fab fragment (antigen-binding fragment) and Fc fragment ("crystallizable" fragment). IgG1 is most abundant in serum among the four IgG subclasses (IgG1, 2, 3 and 4) and binds to Fc receptors (FcγR) on phagocytic cells with high affinity. Fc fragment is demonstrated to mediate phagocytosis, trigger inflammation, and target Ig to particular tissues. Protein G or Protein A on the surface of certain Staphylococcal and Streptococcal strains specifically binds with the Fc region of IgGs, and has numerous applications in biotechnology as a reagent for affinity purification. Recombinant IgG Fc Region is suggested to represent a potential anti-inflammatory drug for treatment of human autoimmune diseases.

Basic Information

Description
Recombinant Human IgG1 Protein is produced by HEK293 cells expression system. The target protein is expressed with sequence (Pro100-Lys330) of human IgG1 Fc fused with a 6×His tag at the C-terminus.

Activity
Measured by its binding ability in a functional ELISA. Immobilized Human Fc-gamma RII-a(CD32a) at 1 μg/mL (100 μL/well) can bind IgG1 Fc with a linear range of 0.156-3.47 μg/mL.

Shipping
Lyophilized proteins are shipped at ambient temperature.
Liquid proteins are shipped at frozen temperature with dry ice.
Upon receipt, store it immediately at the temperature recommended below.

Storage
Store at -20℃

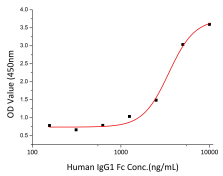
Operational Notes
For your safety and health, please wear a lab coat and disposable gloves for handling.

Contact

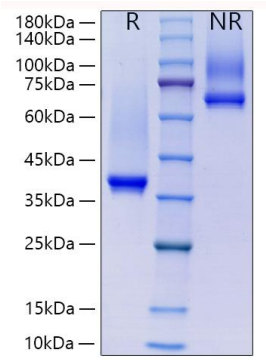
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Validation Data



Immobilized Human Fc-gamma RII-a(CD32a) at 1μg/mL (100 μL/well) can bind IgG1 Fc with a linear range of 0.156-3.47μg/mL.



Recombinant Human IgG1 Protein was determined by SDS-PAGE under reducing (R) and non-reducing (NR) conditions.