

# Recombinant Human IgG1 Protein

Catalog No.: RPT0004 **Recombinant**

## Sequence Information

Species	Gene ID	Swiss Prot
Human	3500	P01857

### Tags

C-His

### Synonyms

Human  
IgG;IGHG1;COB1;YAP;YAP2;YAP65;YKI;YA  
P1;human IgG (Fc)

## Product Information

Source	Purification
HEK293 cells	> 95% by SDS- PAGE.

Calculated MW	Observed MW
26.8 kDa	35-40 kDa

### Endotoxin

<0.1EU/μg

### 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 stabilizer (e.g. 0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose), and aliquot the reconstituted protein solution to minimize free-thaw cycles.

## Contact

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## 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.

### Bio-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.

### Storage

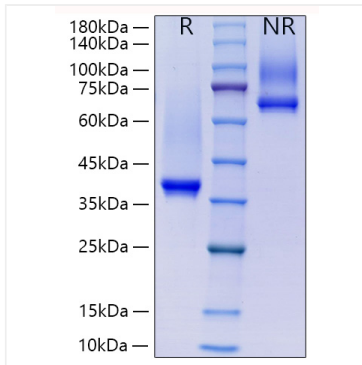
Store at -20°C. Store the lyophilized protein at -20°C to -80°C up to 1 year from the date of receipt.

After reconstitution, the protein solution is stable at -20°C for 3 months, at 2-8°C for up to 1 week.

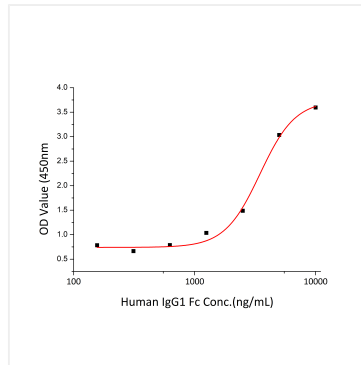
Avoid repeated freeze/thaw cycles.

## Validation Data

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Recombinant Human IgG1 Protein was resolved with SDS PAGE under reducing (R) and non-reducing (NR) conditions showing single bands at 35-40 kDa and 70-100 kDa, respectively.



Immobilized Human Fc-gamma RII-a (CD32a) at 1 $\mu$ g/mL (100  $\mu$ L/well) can bind IgG1 Fc with a linear range of 0.156-3.47 $\mu$ g/mL.