

## IgG1 Fc Protein, Human, Recombinant (C103S)

### General Information

Synonyms:	Ighg1;IgG1 Fc
Protein Construction:	A DNA sequence encoding the human IgG1 Fc region (P01857-1) (Glu99-Lys330) (one aa mutation, 103 Cys/Ser) was expressed. Predicted N terminal: Glu 99
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P01857-1
Molecular Weight:	26 kDa (predicted); 32 kDa (reducing condition, due to glycosylation)

### QC Testing

Biological Activity:	<ol style="list-style-type: none"><li>1. Measured by its ability to bind human CD16a-His (Cat: TMPY-01964) in a functional ELISA.</li><li>2. Measured by its ability to bind human CD16a-AVI-His (Cat: TMPY-01965) in a functional ELISA.</li><li>3. Measured by its ability to bind human CD16a-His (Cat: TMPY-00763) in a functional ELISA.</li></ol>
Purity:	≥ 95 % as determined by SDS-PAGE. ≥ 95 % as determined by SEC-HPLC.
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

### Preparation and Storage

Reconstitution:	Reconstituted with sterile deionized water to 0.25 mg/mL. Reconstitution conditions may vary depending on the lot.
Stability & Storage:	<p>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.</p> <p><small>Actual storage temperature shall be subject to the COA.</small></p>
Shipping:	In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein 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.

### Reference

- Carosella ED. et al., 1988, Cell Immunol. 112: 262-70.
- Eckle I. et al., 1990, Clin Exp Immunol. 81: 352-6.
- Lorriaine C. et al., 1995, J Biol Chem. 270:8164-71.
- Gomez-Guerrero C. et al., 2000, J Immunol. 164: 2092-101.
- Sprague ER. et al., 2004, J Biol Chem. 14: 14184-93.
- Anthony RM. et al., 2008, Science. 320: 373-6.

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