Human IgG1-Fc Protein (103 Cys/Ser) (HPLC-verified)

Catalog Number: HPLC-10702-HNAC

General Information

Gene Name Synonym:
IgG1 Fc; Ighg1

Protein Construction:
A DNA sequence encoding the human IgG1 Fc region (AAC82527.1) (Glu99-Lys330) (one aa mutation, 103 Cys/Ser) was expressed.

Source: Human

Expression Host: CHO Stable Cells

QC Testing

Purity: > 95 % as determined by SDS-PAGE. > 95 % as determined by SEC-HPLC.

Endotoxin:
< 1.0 EU per µg protein as determined by the LAL method.

Predicted N terminal: Glu 99

Molecular Mass:
The recombinant human IgG1 Fc consists of 232 amino acids and has a predicted molecular mass of 26 kDa. As a result of glycosylation, the apparent molecular mass of rhFc is approximately 34 kDa in SDS-PAGE under reducing conditions.

Formulation:
Lyophilized from sterile PBS, pH 7.4.

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Stability & Storage:
Samples are stable for twelve months from date of receipt at -20°C to -80°C.

Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:
Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:

Protein Description

As a monomeric immunoglobin 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 the 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 (FcyR) 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.

References