General Information

Gene Name Synonym:
CD16; CD16a; Fc gamma RIIia; FCG3; FCGR; FCGRIII; FCR-10; FCRIII; FCRIIIA; IGFR3; IMD20

Protein Construction:
A DNA sequence encoding the extracellular domain (Met 1-Gln 208) of human CD16a (P08637-1) was fused with a c-terminal polyhistidin tagged AVI tag at the C-terminus. It is identical to FCGR3A158F/V in the reference.

Source: Human
Expression Host: HEK293 Cells

QC Testing

Purity: > 95 % as determined by SDS-PAGE

Bio Activity:
Using the Octet RED System, the affinity constant (Kd) of CD16a bound to Human IgG1 was 30nM.

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

Stability:
Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Gly 17

Molecular Mass:
The secreted recombinant human CD16a consists of 223 amino acids and predicts a molecular mass of 25.1 kDa. By SDS-PAGE under reducing conditions, the apparent molecular mass of the protein is approximately 46 kDa due to glycosylation.

Formulation:
Lyophilized from sterile PBS, pH 7.2

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

Usage Guide

Storage:
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

The Fc receptor with low affinity for IgG (FCGR3, or CD16) is encoded by 2 nearly identical genes, FCGR3A and FCGR3B, resulting in tissue-specific expression of alternative membrane-anchored isoforms. FCGR3A, it is also known as CD16a, encodes a transmembrane protein expressed on activated monocytes/macrophages, natural killer (NK) cells, and a subset of T cells. CD16a / FCGR3A is a receptor expressed on NK cells that facilitates antibody dependent cellular cytotoxicity (ADCC) by binding to the Fc portion of various antibodies. CD16a / FCGR3A also has a broader function. CD16a / FCGR3A is directly involved in the lysis of some virus-infected cells and tumor cells by NK cells, independent of antibody binding. Cross-linking of CD16a / FCGR3A on NK cells resulted in increased intracellular Ca2+ levels and a cascade of biochemical events similar to those activated by the T cell receptor. CD16a / FCGR3A on human NK cells is a lysis receptor that mediates the direct killing of some virus infected and tumor cells, independent of antibody ligation.

References