

FCGR3A Human, Sf9

CD16a Human Recombinant, Sf9

CDA0140

Product Overview

Name	FCGR3A Human, Sf9
Accession(Primary)	P08637
Description	CD16a Human Recombinant, Sf9

Target information (P08637)

Gene Name

About Gene Symbol

Background

CD16A, also known as Fc gamma receptor IIIA (FcγRIIIA), is a key receptor involved in immune responses and antibody-dependent cell-mediated cytotoxicity (ADCC). This research paper aims to explore the structure, function, and therapeutic implications of CD16A, shedding light on its diverse roles in immune regulation and targeted therapies. CD16A is a transmembrane protein expressed primarily on natural killer (NK) cells, macrophages, and a subset of activated neutrophils. It interacts with the Fc portion of immunoglobulin G (IgG) antibodies, thereby mediating ADCC. Upon binding to IgG-coated target cells, CD16A triggers intracellular signaling cascades that initiate immune effector functions, leading to target cell destruction. The structure of CD16A consists of an extracellular domain responsible for IgG binding, a transmembrane domain, and an intracellular domain involved in signal transduction. Genetic polymorphisms in CD16A have been identified, leading to variations in its affinity for IgG subclasses and influencing immune responses and disease susceptibility. The function of CD16A extends beyond its role in ADCC. It also participates in immune cell activation, cytokine production, and regulation of immune responses. CD16A engagement on NK cells can trigger cytotoxicity and cytokine release, contributing to antiviral and antitumor immune responses. Moreover, CD16A-mediated cross-

talk between immune cells modulates immune surveillance and inflammation. Therapeutically, CD16A has emerged as a potential target for immunotherapy. Monoclonal antibodies designed to enhance CD16A-mediated ADCC have shown promising results in the treatment of cancer. By engaging CD16A on immune effector cells, these antibodies facilitate targeted cell killing and tumor eradication. Additionally, CD16A-based immunotherapies have been explored in infectious diseases and autoimmune disorders. The availability of CD16A human recombinant proteins has facilitated extensive research and drug development efforts. Recombinant CD16A proteins serve as valuable tools for studying CD16A interactions, optimizing immunotherapeutic strategies, and evaluating the efficacy of novel therapeutic agents.