



# Recombinant Protein Technical Manual

## Recombinant Human CD16a/FCGR3A Protein (176 Phe, His&AVI Tag), Biotinylated(Active) RPES0192

### Product Data:

**Product SKU:** RPES0192

**Size:** 20µg

**Species:** Human

**Expression host:** HEK293 Cells

**Uniprot:** P08637

### Protein Information:

**Molecular Mass:** 25.1 kDa

**AP Molecular Mass:** 48 kDa

**Tag:** C-His & AVI

**Bio-activity:** 1. Measured by its ability to bind recombinant human IgG1 in a functional ELISA.2. Measured by its binding ability in a functional ELISA. Immobilized Human IgG1 at 10 µg/ml (100 µl/well) can bind Human CD16a. The EC50 of Human CD16a is 2.4 - 5.7 µg/ml.3. Labeling ratio of biotin to protein: 0.7.

**Purity:** > 90 % as determined by reducing SDS-PAGE.

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

**Storage:** Lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.

**Shipping:** This product is provided as lyophilized powder which is shipped with ice packs.

**Formulation:** Lyophilized from sterile PBS, pH 7.4

**Reconstitution:** Please refer to the printed manual for detailed information.

**Application:** Functional ELISA

**Synonyms:** Low Affinity Immunoglobulin Gamma Fc Region Receptor III-A; CD16a Antigen; Fc-Gamma RIII-Alpha; Fc-Gamma RIII; Fc-gamma RIIIa; FcRIII; FcRIIIa; FcR0; IgG Fc Receptor III-2; CD16a; FCGR3A; CD16A; FCG3; FCGR3; IGFR3;CD16;CD16A

## Immunogen Information:

**Sequence:** Met 1-Gln 208

## Background:

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 Ca<sup>2+</sup> 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.