

## Technical Data Sheet

### Biotinylated Human CD16a Protein (C-His-Avi, 176V)

**Catalog Number:** 800203, 800204

**Size:** 25 ug, 100 ug

**Target Name:** CD16A, FCGR3A, FCG3, FCGR3, IGFR3,

**Regulatory Status:** RUO

#### Product Details

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**Application:** ELISA, BLI

**Format:** Liquid, Biotinylated

**Expression Host:** HEK293

**Species:** Human

**Sources:** Human CD16a protein (Accession Number NP\_P08637-1, natural variant Val176) (Gly17-Gln208) with C-terminus His tag and Avi tag is expressed in HEK293 cells. This protein was site-specifically labeled with Biotin by BirA ligase.

**Accession Number:** P08637

**Molecular Weight:** The 227 amino acid protein has a predicted molecular weight of 25.5 kDa. The protein migrates at approximately 40-50 kDa on SDS-PAGE with DTT-reduced conditions.

**Affinity Tag:** C-His-Avi

**Purity:** >95% based on SDS-PAGE under reducing condition

**Formulation:** 1xPBS buffer, pH7.4, 0.22 µm filtered

**Endotoxin level:** Less than 0.1 EU/µg protein as determined by the LAL method

**Protein Concentration:** 25µg size is bottled at 0.2mg/mL concentration. 100 µg size is supplied at a lot-specific concentration.

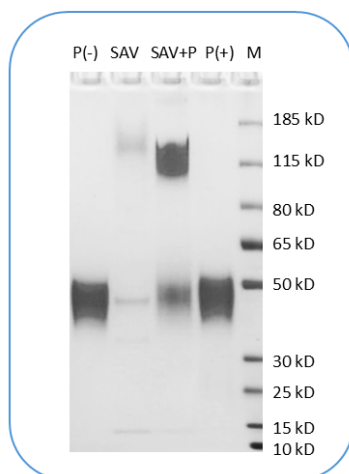
**Storage and Handling:** Briefly centrifuge the vial upon receipt. An unopened vial can be stored at 4°C for up to 2 weeks, or at -20°C or below for up to six months. The protein may be further diluted to 0.1 mg/mL using 0.22 µm-filtered PBS buffer (pH 7.4). For long-term storage, the diluted stock solution should be aliquoted and stored at ≤ -70°C to minimize freeze-thaw cycles. If additional dilution is required, carrier proteins such as FBS or BSA should be added to maintain protein stability.

#### Background Information

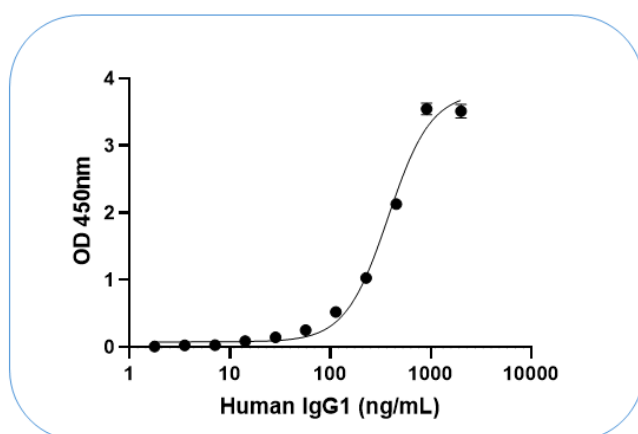
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CD16 is a low-affinity Fc receptor and exists in two isoforms: FcγRIIIa (CD16a) and FcγRIIIb (CD16b). These receptors bind to the Fc region of IgG antibodies with distinct tissue-specific expression pattern. CD16a is a transmembrane glycoprotein with intermediate affinity, expressed on natural killer (NK) cells, macrophages, subsets of T cells, immature thymocytes, and placental trophoblasts. In contrast, CD16b is a low-affinity, GPI-anchored receptor expressed primarily on neutrophils and eosinophils. CD16a plays a key role in mediating phagocytosis, antibody-dependent cellular cytotoxicity (ADCC), enzyme secretion, and immune complex clearance.

## Product Data



Human CD16a (C-His-Avi, 176V) was biotinylated in vitro using BirA ligase. SDS-PAGE analysis under reducing (P+) and non-reducing (P-) conditions shows the protein has a purity greater than 95%. A gel shift assay using co-incubation with streptavidin indicates that the biotinylation efficiency of the CD16a protein exceeds 80%.



Biotinylated Human CD16a (176V) is coated at 8 ug/mL (0.8 ug/well). Human IgG1 can bind Biotinylated human CD16a (176V) in the dose dependent manner. The ED50 is about 100-400 ng/mL.