

## CD16a Protein, Human, Recombinant (176 Phe, His & Avi)

### General Information

|                       |  |
|-----------------------|--|
| Synonyms:             | IMD20;IGFR3;FCGR3;Fc fragment of IgG, low affinity IIIa, receptor (CD16a);Fc $\gamma$ RIIIa;CD16;FCR-10;FCG3;CD16A;FCRIIIA;FCGRIII;Fc gamma RIIIa;FCRIII |
| Protein Construction: | Gly17-Gln208   |
| Species:              | Human  |
| Expression Host:      | HEK293 Cells   |
| Accession:            | P08637-1   |
| Molecular Weight:     | 24.7 kDa (predicted); 48-58 kDa (reducing condition, due to glycosylation)   |

### QC Testing

|                      |  |
|----------------------|--|
| Biological Activity: | Immobilized Human Fc gamma RIII A (F176) , His Tag at 2 $\mu$ g/ml (100 $\mu$ l/well) on the plate. Dose response curve for Anti-Fc gamma RIII A Antibody, hFc Tag with the EC50 of 10.1ng/ml determined by ELISA (QC Test).<br>Human Fc gamma RIII A (F176) , His Tag captured on CM5 Chip via anti-His antibody can bind Rituximab, hFc Tag with an affinity constant of 0.92 $\mu$ M as determined in SPR assay (Biacore T200). |
| Purity:              | > 95% as determined by Bis-Tris PAGE;<br>> 95% as determined by HPLC   |
| Endotoxin:           | < 1.0 EU/ $\mu$ g of the protein as determined by the LAL method.  |
| Formulation:         | Lyophilized from 0.22 $\mu$ m filtered solution in PBS (pH 7.4). Normally 8% trehalose is added as protectant before lyophilization.   |

### Preparation and Storage

|                 |  |
|-----------------|--|
| Reconstitution: | Reconstitute the lyophilized protein in distilled water. The product concentration should not be less than 100 $\mu$ g/ml. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing. |
|-----------------|--|

#### Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

#### Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein 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.

### Reference

David Dornan, et al. Effect of FCGR2A and FCGR3A variants on CLL outcome. Blood. 2010 116: 4212-4222

**Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins**

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

Tel:781-999-4286 E\_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481