

Human Fc gamma RIIIa / CD16a (176V) protein

Catalog number HUGR3AV-U

Synonyms

CD16, CD16A, FCGR3, FCGR3A, FCGRIII, FCGRIIIa, FCR3, FCR3A, FCRIII, FCRIIIa, IGFR3, IGFR3A, IGFRIII, IGFRIIIa, Fc gamma R3, Fc gamma R3a, Fc gamma RIII, Fc gamma RIIIa, Fcg R3, Fcg R3a, Fcg RIII, Fcg RIIIa

Species

Human

Accession number

P08637

Allotype

176V

Conjugation status

Unconjugated (no label). The protein contains an AVI tag but this has not been biotinylated in this product.

Purity

>95% monomer purity as determined by SDS-PAGE and SEC-HPLC.

Endotoxin

<1.0 EU per mg as determined by the LAL method.

Protein design

The sequence of the extracellular domain of human CD16a (Gly 17-Gln 208) was fused with a C-terminal tag consisting of the AVI tag, TEV protease recognition sequence and a 10-His tag. The full protein sequence can be downloaded from the product webpage.

Molecular weight

The recombinant human CD16a (176V) including tag consists of 231 amino acids and has a theoretical mass of 26251 Da.

Expression host

Human embryonic kidney (HEK) 293 cells.

Formulation

Lyophilized from sterile PBS, pH 7.4. No preservatives or cryoprotectants have been added.

Reconstitution

To obtain a final concentration of 1 mg/ml reconstitute 250 µg vials with 250 µl water and 1.0 mg vials with 1.0 ml water.

Solubilize for 30 to 60 minutes at room temperature with occasional gentle mixing. Do not vortex.

Shipping

All recombinant proteins are provided as lyophilized powder and shipped at ambient temperature.

Storage and stability

Lyophilized proteins are stable at ambient temperature for at least 2 weeks. If the protein is not to be used immediately then the protein should be stored in lyophilized form at -20 °C for up to 12 months. Once the protein has been reconstituted we recommend storage at 4 °C for up to one week. For longer term storage of protein in solution we recommend aliquoting into smaller vials to avoid repeated freeze-thaw cycles and storage at -20 or -80 °C for up to 3 months.

Quality control

All recombinant proteins are tested for purity by SDS-PAGE and SEC-HPLC with a minimum requirement of >95% monomer purity. Biological activity is confirmed by surface plasmon resonance on a Biacore instrument. Please see certificate of analysis (COA) for batch specific quality control data and images.

Product description

Low affinity immunoglobulin gamma Fc receptor IIIa, also known as FcγRIIIa or CD16a, is a type I integral membrane glycoprotein. CD16a is a member of the immunoglobulin superfamily and is expressed on macrophages, monocytes and NK cells. CD16a binds monomeric IgG with low affinity but is efficient at binding immune complexes and functions in NK cell activation, phagocytosis and antibody-dependent cellular cytotoxicity (ADCC). CD16a is structurally composed of two extracellular immunoglobulin domains of the C2-type that interact with the IgG Fc domain, a transmembrane domain and a short cytoplasmic tail. CD16a is associated with a dimer of the common Fc receptor gamma-chain which contains the immunoreceptor tyrosine-based activation (ITAM) motif. The product provided only contains the extracellular portion of CD16a.

CD16a has two allotypic variants differing at amino acid position 176, one containing phenylalanine (F176) and the other valine (V176). The V176 variant has a greater affinity for all the IgG subclasses and thus results in greater effector function.

For research use only. Not for use in diagnostic or therapeutic procedures.

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