

Biotinylated human Fc gamma RIIa / CD32a (167H) protein

Catalog number HUGR2AH-B



Synonyms

CD32, CD32A, FCGR2, FCGR2A, FCGR2B, FCGR2C, FCGR2D, FCGR2E, FCGR2F, FCGR2G, FCGR2H, FCGR2I, FCGR2J, FCGR2K, FCGR2L, FCGR2M, FCGR2N, FCGR2O, FCGR2P, FCGR2Q, FCGR2R, FCGR2S, FCGR2T, FCGR2U, FCGR2V, FCGR2W, FCGR2X, FCGR2Y, FCGR2Z, FC gamma R2, Fc gamma R2a, Fc gamma R2b, Fc gamma R2c, Fc gamma R2d, Fc gamma R2e, Fc gamma R2f, Fc gamma R2g, Fc gamma R2h, Fc gamma R2i, Fc gamma R2j, Fc gamma R2k, Fc gamma R2l, Fc gamma R2m, Fc gamma R2n, Fc gamma R2o, Fc gamma R2p, Fc gamma R2q, Fc gamma R2r, Fc gamma R2s, Fc gamma R2t, Fc gamma R2u, Fc gamma R2v, Fc gamma R2w, Fc gamma R2x, Fc gamma R2y, Fc gamma R2z

Species

Human

Accession number

P12318

Allotype

167H

Conjugation status

Biotinylated. Biotin to protein ratio is confirmed as 0.7-1.0 by the HABA assay. Product has been site-specifically biotinylated using the AVI tag technology, where the lysine residue within the tag is enzymatically labeled with biotin.

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 CD32a (Ala 36-Ile 218) 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 CD32a (167H) including tag consists of 222 amino acids and has a theoretical mass of 24773 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 IIa, also known as FcγRIIa or CD32a, is a type I integral membrane glycoprotein. CD32a is a member of the immunoglobulin superfamily and is expressed on macrophages, monocytes, neutrophils, eosinophils and dendritic cells, epithelial cells, platelets and activated CD4+ T cells. CD32a binds monomeric IgG with low affinity but is very efficient at binding immune complexes and is involved in phagocytosis and clearing of immune complexes. CD32a 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 containing the immunoreceptor tyrosine-based activation (ITAM) motif. The product provided only contains the extracellular portion of CD32a.

CD32a has two allotypic variants differing at amino acid position 167, one containing histidine (H167) and the other arginine (R167). H167 exhibits a higher affinity to human IgG1 and IgG2 than the R167 does and is thought to be primarily responsible for the phagocytosis of IgG-opsonized bacteria.

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