



LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human CD16a Protein
Catalog Number: hRP-1058
Manufacturer: LD Biopharma, Inc.

Introduction

Human low affinity immunoglobulin gamma Fc region receptor III-A (CD16a) gene encodes a receptor for the Fc portion of immunoglobulin G, and it is involved in the removal of antigen-antibody complexes from the circulation, as well as other antibody-dependent responses. Human CD16a gene (FCGR3A) is highly similar to another nearby gene (FCGR3B) located on chromosome 1. The receptor encoded by CD16a gene is expressed on natural killer (NK) cells as an integral membrane glycoprotein anchored through a transmembrane peptide, whereas FCGR3B is expressed on polymorphonuclear neutrophils (PMN) where the receptor is anchored through a phosphatidylinositol (PI) linkage. Mutations in CD16a gene have been linked to susceptibility to recurrent viral infections, susceptibility to systemic lupus erythematosus, and alloimmune neonatal neutropenia. Alternatively spliced transcript variants encoding different isoforms have been found for this gene.

Full-length extracellular domain of human CD16a cDNA (17 – 208 aa, derived from BC036723) was constructed with codon optimization and expressed with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal. This protein is expressed in E.coli as inclusion bodies. The final product was refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified.

Gene Symbol: CD16a (FCGR3A; FCG3; FCGR3B; FCR-10)
Accession Number: NP_000560
Species: Human
Size: 30 µg / Vial
Composition: 0.3 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, arginine, DTT and Glycerol.
Storage: In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.

Key References

Miller, A.S., et al., *Development of an ELISA based bridging assay as a surrogate*



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measure of ADCC. J. Immunol. Methods 385 (1-2), 45-50 (2012)

Kainer, M., et al., *Correlation between CD16a binding and immuno effector functionality of an antigen specific immunoglobulin Fc fragment (Fcab).* Arch. Biochem. Biophys. 526 (2), 154-158 (2012)

Huang, Y., et al., *The significant increase of Fc gamma RIIIA (CD16), a sensitive marker, in patients with coronary heart disease.* Gene 504 (2), 284-287 (2012)

Applications

1. May be used for in vitro human CD16a mediated ADCC enhancement through NK cell activation regulation study with this protein as either coating matrix protein or soluble factor.
2. May be used for CD16a protein-protein interaction assay.
3. Potential biomarker protein for coronary heart disease.
4. As antigen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHGNLYFQGGEFGMRTEDLPKAVVFLEPQWYRVLEKDSVTLKCQAY
SPEDNSTQWFHNESLISSQASSYFIDAATVDDSGEYRCQTNLSTLSDPVQLEVHIGWLLLQAPR
WVFKEEDPIHLRCHSWKNTALHKVTYLQNGKGRKYFHHNSDFYIPKATLKDSGSYFCRGLFGSK
NVSSETVNITITQGLAVSTISSFFPPGYQ