

PRODUCT INFORMATION



FcγRIIIb/CD16b HNA-1b allotype (human, recombinant)

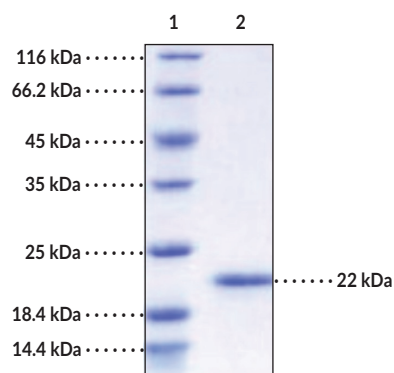
Item No. 31827

Overview and Properties

Synonyms: FCG3, FCGR3B, FCGR3B* 02, FCR-10, FCRIIIb
Source: Recombinant human FcγRIIIb expressed in *E. coli*
Amino Acids: 18-193
Uniprot No.: O75015
Molecular Weight: 20 kDa
Storage: -80°C (as supplied)
Stability: ≥1 year
Purity: ≥95% estimated by SDS-PAGE
Supplied in: Lyophilized from sterile 20 mM Tris (pH 7.4) with 50 mM sodium chloride

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



Lane 1: MW Markers
Lane 2: FcγRIIIb HNA-1b allotype

SDS-PAGE Analysis of FcγRIIIb HNA-1b allotype. This protein has a calculated molecular weight of 20 kDa.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

Low affinity immunoglobulin γ Fc region receptor IIIb (Fc γ RIIIb) has roles in neutrophil adhesion, phagocytosis, and the respiratory burst.¹ It is encoded by the *FCGR3B* gene in humans and is comprised of two immunoglobulin-like (Ig-like) extracellular domains that bind to IgG Fc and pentraxins, such as C-reactive protein. Fc γ RIIIb is synthesized as a precursor with a transmembrane domain and four-residue cytoplasmic domain that are cleaved in the endoplasmic reticulum, following which a glycosylphosphatidylinositol (GPI) anchor is added, which allows for membrane association of the mature protein.^{1,2} It can be expressed as three different allotypes known as human neutrophil antigens HNA-1a, HNA-1b, and HNA-1c, which are characterized by differential antibody binding affinities.¹ Fc γ RIIIb is constitutively expressed in neutrophils and a subset of basophils and is shed from the cell surface as a soluble form *via* proteolytic cleavage during apoptosis or following neutrophil activation.^{1,3} Copy number variation of *FCGR3B* is associated with an increased risk of systemic lupus erythematosus (SLE) and primary Sjögren's syndrome.⁴ Cayman's Fc γ RIIIb/CD16b HNA-1b allotype (human, recombinant) protein consists of 176 amino acids and has a calculated molecular weight of 20 kDa.

References

1. Niederer, H.A., Clatworthy, M.R., Willcocks, L.C., *et al.* Fc γ RIIB, Fc γ RIIIb, and systemic lupus erythematosus. *Ann. N.Y. Acad. Sci.* **1183(1)**, 69-88 (2010).
2. Unkeless, J.C., Shen, Z., Lin, C.W., *et al.* Function of human Fc γ RIIA and Fc γ RIIIb. *Semin. Immunol.* **7(1)**, 37-44 (1995).
3. Middelhoven, P.J., Van Buul, J.D., Hordijk, P.L., *et al.* Different proteolytic mechanisms involved in Fc γ RIIIb shedding from human neutrophils. *Clin. Exp. Immunol.* **125(1)**, 169-175 (2001).
4. Mamtani, M., Anaya, J.-M., He, W., *et al.* Association of copy number variation in the *FCGR3B* gene with risk of autoimmune diseases. *Genes Immun.* **11(2)**, 155-160 (2010).