SANTA CRUZ BIOTECHNOLOGY, INC.

Fc γ RIIb/CD16-2 (6A284): sc-70637

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

CD32 (designated Fc γ RIIb in mouse) is a low affinity receptor for the Fc fragment of aggregated IgG. CD32 is responsible for the clearance of immunocomplexes by macrophages and also plays an important role in the regulation of antibody production by B cells. IgG can noncooperatively bind either one or two highly glycosylated CD32 molecules, and this binding delivers a negative signal for B cells. CD32 exists as several isoforms that are produced by alternative splicing of three distinct genes, A, B, and C. These isoforms are designated Fc γ RIIa, Fc γ RIIb, Fc γ RIIb3, and Fc γ RIIc. All isoforms are present on monocytes, placental trophoblasts and endothelial cells. In addition, the FcγRIIb forms are present on B lymphocytes, and the FcγRIIa and FcγRIIc forms are found on neutrophils. CD16 (designated CD16-2 in mouse), the low affinity Fc γ receptor III for IgG (Fc γ RIII), exists both as a polypeptide-anchored form (Fc γ RIIIA or CD16-A) in human natural killer cells and macrophages and as a glycosylphosphatidylinositol-anchored form (FcγRIIIB or CD16-B) in neutrophils. CD16-A requires association of the γ subunit of FcεRI or the ζ subunit of the TCR-CD3 complex for cell surface expression. CD16-B is polymorphic; the two alleles are termed NA1 and NA2. CD16 is one of only four eukaryotic receptors known to exist natively in both the transmembrane (TM, CD16-A) and glycosylphosphatidylinositol (GPI, CD16-B) isoforms.

REFERENCES

1. Araujo-Jorge, T., et al. 1993. An Fc γ RII-, Fc γ RIII-specific monoclonal antibody (2.4G2) decreases acute *Trypanosoma cruzi* infection in mice. Infect Immun. 61: 4925-4928.
2. Warmerdam, P.A., et al. 1993. Polymorphism of the human Fc g RII (CD32): molecular basis and functional aspects. Immunobiology 185: 175-182. PMID: 1452199
3. Ho, A.S., et al. 1995. Functional regions of the mouse Interleukin-10 receptor cytoplasmic domain. Mol.Cell. Bio. 15: 5043-5053.
4. Unkeless, J.C., et al. Function of human Fc γ RIIA and Fc γ RIIIB. Semin. Immunol. 7: 37-44.

CHROMOSOMAL LOCATION

Genetic locus: Fcgr2b, Fcgr3a (mouse) mapping to 1 H3.

SOURCE

Fc γ RIIb/CD16-2 (6A284) is a rat monoclonal antibody raised against PU5 1.8 IOE7 cell line of mouse origin.

PRODUCT

Each vial contains 100 µg IgG_{2b} in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

Available as phycoerythrin conjugate for flow cytometry, sc-70637 PE, 100 tests.

Available as fluorescein conjugate for flow cytometry, sc-70637 FITC, 100 tests.

APPLICATIONS

Fc γ RIIb/CD16-2 (6A284) is recommended for detection of Fc γ RIIb and CD16-2 of mouse origin by flow cytometry (1 µg per 1 x 10^6 cells).

Positive Controls: mouse PBL.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.