SANTA CRUZ BIOTECHNOLOGY, INC.

CD16 (3G8): sc-19620

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

CD16, the low affinity Fc γ receptor III for IgG (Fc γ RIII), exists as a polypeptide-anchored form (Fc γ RIIIA or CD16-A) in human natural killer cells and macrophages and as a glycosylphosphatidylinositol-anchored form (Fc γ RIIIB or CD16-B) in neutrophils. CD16-A requires association of the γ subunit of Fc ε RI or the ζ subunit of the TCR-CD3 complex for cell surface expression. The CD16-B is polymorphic and 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. Patients with paroxysmal nocturnal haemoglobinuria (PNH) have only about 10% of the normal levels of CD16 on their neutrophils, whereas the expression of FcRII is unaffected. Analysis of FcRIII expression in cells of PNH patients, known to be deficient in PI-linked proteins, suggests FcRIII is not PI-linked in monocytes.

CHROMOSOMAL LOCATION

Genetic locus: FCGR3A (human) mapping to 1q23.3.

SOURCE

CD16 (3G8) is a mouse monoclonal antibody raised against human leukocytes.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD16 (3G8) is available conjugated to agarose (sc-19620 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-19620 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-19620 PE), fluorescein (sc-19620 FITC), Alexa Fluor® 488 (sc-19620 AF488), Alexa Fluor® 546 (sc-19620 AF546), Alexa Fluor® 594 (sc-19620 AF594) or Alexa Fluor® 647 (sc-19620 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-19620 AF680) or Alexa Fluor® 790 (sc-19620 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

CD16 (3G8) is recommended for detection of CD16 of human origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

CD16 (3G8) is also recommended for detection of CD16 in additional species, including primates.

Suitable for use as control antibody for CD16 siRNA (h): sc-42758, CD16 shRNA Plasmid (h): sc-42758-SH and CD16 shRNA (h) Lentiviral Particles: sc-42758-V.

Molecular Weight of CD16: 50-100 kDa.

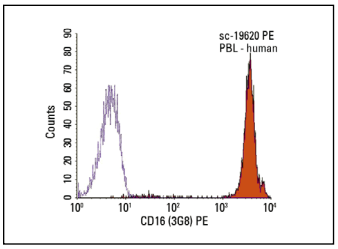
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

STORAGE

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

DATA



CD16 (3G8) PE: sc-19620 PE. FCM analysis of human peripheral blood leukocytes. Black line histogram represents the isotype control, normal mouse IgG_1-PE: sc-2866.

SELECT PRODUCT CITATIONS

1. Peyron, P., et al. 2000. Nonopsonic phagocytosis of *Mycobacterium kansasii* by human neutrophils depends on cholesterol and is mediated by CR3 associated with glycosylphosphatidylinositol-anchored proteins. J. Immunol. 165: 5186-5191.
2. Lisi, S., et al. 2007. Fcγ receptors mediate internalization of anti-Ro and anti-La autoantibodies from Sjögren's syndrome and apoptosis in human salivary gland cell line A-253. J. Oral Pathol. Med. 36: 511-523.
3. Liu, M., et al. 2011. Vitellogenin mediates phagocytosis through interaction with FcγR. Mol. Immunol. 49: 211-218.
4. Laurin, M., et al. 2013. The Rac-specific exchange factors Dock1 and Dock5 are dispensable for the establishment of the glomerular filtration barrier *in vivo*. Small GTPases 4: 221-230.
5. Trebing, J., et al. 2014. A novel llama antibody targeting Fn14 exhibits anti-metastatic activity *in vivo*. MAbs 6: 297-308.
6. Borinskaya, S., et al. 2016. Integration of linear and dendritic Actin nucleation in Nck-induced Actin comets. Mol. Biol. Cell 27: 247-259.
7. Kums, J., et al. 2017. Quantitative analysis of cell surface antigen-antibody interaction using *Gaussia princeps* luciferase antibody fusion proteins. MAbs 9: 506-520.
8. Martin, C.E., et al. 2018. ShcA adaptor protein promotes nephrin endocytosis and is upregulated in proteinuric nephropathies. J. Am. Soc. Nephrol. 29: 92-103.
9. Medler, J., et al. 2019. TNFRSF receptor-specific antibody fusion proteins with targeting controlled FcγR-independent agonistic activity. Cell Death Dis. 10: 224.

RESEARCH USE

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