SANTA CRUZ BIOTECHNOLOGY, INC.

CD16 (DJ130c): sc-20052

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

CD16, the low affinity Fc γ receptor III for IgG (FcγRIII), exists both as a polypeptide-anchored form (FcγRIIIA 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. 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 (DJ130c) is a mouse monoclonal antibody raised against CD16 of human origin.

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 (DJ130c) is available conjugated to agarose (sc-20052 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-20052 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-20052 PE), fluorescein (sc-20052 FITC), Alexa Fluor® 488 (sc-20052 AF488), Alexa Fluor® 546 (sc-20052 AF546), Alexa Fluor® 594 (sc-20052 AF594) or Alexa Fluor® 647 (sc-20052 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-20052 AF680) or Alexa Fluor® 790 (sc-20052 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

CD16 (DJ130c) is recommended for detection of CD16 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

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.

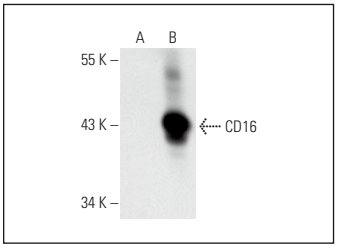
Molecular Weight of CD16: 50-100 kDa.

Positive Controls: CD16 (h): 293T Lysate: sc-114183, human platelet extract: sc-363773 or NK-92 whole cell lysate: sc-364788.

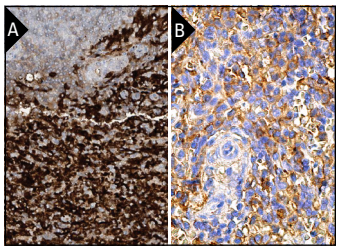
STORAGE

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

DATA



CD16 (DJ130c): sc-20052. Western blot analysis of CD16 expression in non-transfected: sc-117752 (**A**) and human CD16 transfected: sc-114183 (**B**) 293T whole cell lysates.



CD16 (DJ130c): sc-20052. Immunoperoxidase staining of formalin fixed, paraffin-embedded human spleen tissue showing cytoplasmic staining of cells in red pulp. Kindly provided by The Swedish Human Protein Atlas (HPA) program (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human spleen tissue showing membrane staining of cells in red pulp (**B**).

SELECT PRODUCT CITATIONS

1. Sánchez-Rodríguez, E.N., et al. 2011. Persistence of decidual NK cells and KIR genotypes in healthy pregnant and preeclamptic women: a case-control study in the third trimester of gestation. Reprod. Biol. Endocrinol. 9: 8.
2. Gomaa, M.F., et al. 2016. Uterine natural killer cells dysregulation in idiopathic human preterm birth: a pilot study. J. Matern. Fetal Neonatal Med. 5: 1-5.
3. Li, F., et al. 2017. Azithromycin effectively inhibits tumor angiogenesis by suppressing vascular endothelial growth factor receptor 2-mediated signaling pathways in lung cancer. Oncol. Lett. 14: 89-96.
4. Nguyen, X.D., et al. 2018. Granulocyte antibodies in male blood donors: can they trigger transfusion-related acute lung injury? Transfusion 58: 1894-1901.
5. Kong, J.H., et al. 2020. A membrane-tethered ubiquitination pathway regulates hedgehog signaling and heart development. Dev. Cell 55: 432-449.e12.
6. Wendisch, D., et al. 2021. SARS-CoV-2 infection triggers profibrotic macrophage responses and lung fibrosis. Cell 184: 6243-6261.e27.
7. Miheecheva, N., et al. 2022. Multiregional single-cell proteogenomic analysis of ccRCC reveals cytokine drivers of intratumor spatial heterogeneity. Cell Rep. 40: 111180.
8. Mukherjee, S., et al. 2023. Macrophage differentiation is marked by increased abundance of the mRNA 3' end processing machinery, altered poly(A) site usage, and sensitivity to the level of CstF64. Front. Immunol. 14: 1091403.

RESEARCH USE

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