SANTA CRUZ BIOTECHNOLOGY, INC.

CD32-B (F-4): sc-365864

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

CD32 (also designated Fc γ RII) 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 FcγRIIA, FcγRIIB1, FcγRIIB3, and FcγRIIC. 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.

REFERENCES

1. Bijsterbosch, M.K., et al. 1985. Crosslinking of surface immunoglobulin and Fc receptors on B lymphocytes inhibits stimulation of inositol phospholipid breakdown via the antigen receptors. J. Exp. Med. 162: 1825-1836.
2. Huizinga, T.W.J., et al. 1989. Binding characteristics of dimeric IgG subclass complexes to human neutrophils. J. Immunol. 142: 2365-2369.
3. Stuart, S.G., et al. 1989. Human IgG Fc receptor (hFcRII; CD32) exists as multiple isoforms in macrophages, lymphocytes and IgG-transporting placental epithelium. EMBO J. 8: 3657-3666.
4. Raveth, J.V. and Kinet, J.P. 1991. Fc receptors. Annu. Rev. Immunol. 9: 457-492.
5. Barclay, A.N., et al. 1993. The Leukocyte Antigen Facts Book. London: Academic Press, 170-172.
6. Sondermann, P., et al. 1999. Characterization and crystallization of soluble human Fc γ receptor II (CD32) isoforms produced in insect cells. Biochemistry 38: 8469-8477.

CHROMOSOMAL LOCATION

Genetic locus: FCGR2B (human) mapping to 1q23.3.

SOURCE

CD32-B (F-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 285-310 at the C-terminus of CD32-B of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-365864 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

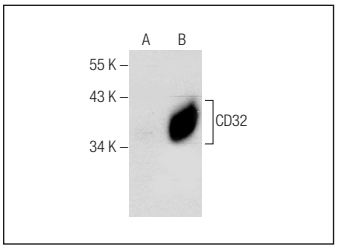
APPLICATIONS

CD32-B (F-4) is recommended for detection of CD32-B of human origin by Western Blotting (starting dilution 1:100, 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

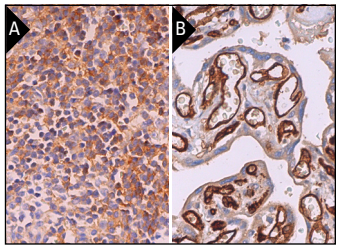
Suitable for use as control antibody for CD32-B siRNA (h): sc-42774, CD32-B shRNA Plasmid (h): sc-42774-SH and CD32-B shRNA (h) Lentiviral Particles: sc-42774-V.

Positive Controls: CD32 (h3): 293T Lysate: sc-113838 or U-937 cell lysate: sc-2239.

DATA



CD32-B (F-4): sc-365864. Western blot analysis of CD32 expression in non-transfected: sc-117752 (**A**) and human CD32 transfected: sc-113838 (**B**) 293T whole cell lysates.



CD32-B (F-4): sc-365864. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing membrane and cytoplasmic staining of cells in non-germinal center (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing membrane and cytoplasmic staining of endothelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Trebing, J., et al. 2014. A novel llama antibody targeting Fn14 exhibits anti-metastatic activity *in vivo*. MAbs 6: 297-308.
2. Li, J., et al. 2015. Cetuximab ameliorates suppressive phenotypes of myeloid antigen presenting cells in head and neck cancer patients. J. Immunother. Cancer 3: 54.
3. Kums, J., et al. 2017. Quantitative analysis of cell surface antigen-antibody interaction using *Gaussia princeps* luciferase antibody fusion proteins. MAbs 9: 506-520.
4. Medler, J., et al. 2019. TNFRSF receptor-specific antibody fusion proteins with targeting controlled FcγR-independent agonistic activity. Cell Death Dis. 10: 224.
5. Sheng, L., et al. 2020. Overexpression of FcγRIIB regulates downstream protein phosphorylation and suppresses B cell activation to ameliorate systemic lupus erythematosus. Int. J. Mol. Med. 46: 1409-1422.

RESEARCH USE

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