SANTA CRUZ BIOTECHNOLOGY, INC.

CD21 (A-3): sc-13135

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

CD21 (also known as complement receptor (CR) type 2) is a type I integral membrane glycoprotein that serves as a receptor for the C3d complement fragment and for the Epstein-Barr virus. It plays a role in B cell activation and proliferation and undergoes phosphorylation after B cell activation with phorbol esters. CD21 is expressed on mature B cells, follicular dendritic cells, pharyngeal and cervical epithelial cells and a subset of thymocytes. The adaptive immune response is tightly regulated to limit responding cells in an antigen-specific manner. On B cells, co-receptors CD21/CD19 modulate the strength of B cell Ag receptor (BCR) signals, thereby influencing cell fate. CD21 is normally expressed during the immature and mature stages of B cell development. In association with CD19, CR21 plays an important role in enhancing mature B cell responses to foreign antigens.

CHROMOSOMAL LOCATION

Genetic locus: CR2 (human) mapping to 1q32.2; Cr2 (mouse) mapping to 1 H6.

SOURCE

CD21 (A-3) is a mouse monoclonal antibody raised against amino acids 21-260 of CD21 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD21 (A-3) is available conjugated to agarose (sc-13135 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-13135 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-13135 PE), fluorescein (sc-13135 FITC), Alexa Fluor® 488 (sc-13135 AF488), Alexa Fluor® 546 (sc-13135 AF546), Alexa Fluor® 594 (sc-13135 AF594) or Alexa Fluor® 647 (sc-13135 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-13135 AF680) or Alexa Fluor® 790 (sc-13135 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

CD21 (A-3) is recommended for detection of CD21 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:500), 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 CD21 siRNA (h): sc-29974, CD21 siRNA (m): sc-29975, CD21 shRNA Plasmid (h): sc-29974-SH, CD21 shRNA Plasmid (m): sc-29975-SH, CD21 shRNA (h) Lentiviral Particles: sc-29974-V and CD21 shRNA (m) Lentiviral Particles: sc-29975-V.

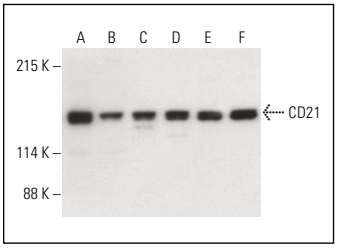
Molecular Weight of CD21: 145 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, F9 cell lysate: sc-2245 or RAW 264.7 whole cell lysate: sc-2211.

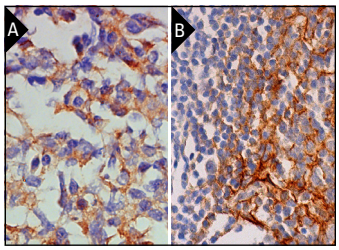
STORAGE

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

DATA



CD21 (A-3): sc-13135. Western blot analysis of CD21 expression in Raji (**A**), Jurkat (**B**), F9 (**C**), RAW 264.7 (**D**), WR19L (**E**) and AT3B-1 (**F**) whole cell lysates. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.



CD21 (A-3): sc-13135. Immunoperoxidase staining of formalin-fixed, paraffin-embedded normal human tonsil tissue showing membrane staining (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix tissue showing membrane staining of lymphoid cells (**B**).

SELECT PRODUCT CITATIONS

1. Otsuka, M., et al. 2004. Role of CD21 antigen in diffuse large B-cell lymphoma and its clinical significance. Br. J. Haematol. 127: 416-424.
2. Verma-Gaur, J., et al. 2012. Negative feedback regulation of antigen receptors through calmodulin inhibition of E2A. J. Immunol. 188: 6175-6183.
3. Zekri, A.R., et al. 2012. Epstein-Barr virus and breast cancer: epidemiological and molecular study on Egyptian and Iraqi women. J. Egypt. Natl. Canc. Inst. 24: 123-131.
4. Hauser, J., et al. 2013. Broad feedback inhibition of pre-B-cell receptor signaling components. Mol. Immunol. 54: 247-253.
5. Green, M.R., et al. 2014. Transient expression of Bcl-6 is sufficient for oncogenic function and induction of mature B-cell lymphoma. Nat. Commun. 5: 3904.
6. Cai, Y.I., et al. 2016. IgG_4-related inflammatory pseudotumor of the kidney mimicking renal cell carcinoma: a case report. Oncol. Lett. 11: 3438-3440.
7. Zhao, Q., et al. 2022. Castleman's disease in the pelvic retroperitoneum: a case report. Exp. Ther. Med. 24: 660.
8. Giambrone, G., et al. 2022. Does TLS exist in canine mammary gland tumours? Preliminary results in simple carcinomas. Vet. Sci. 9: 628.
9. Shang, T., et al. 2023. Tertiary lymphoid structures predict the prognosis and immunotherapy response of cholangiocarcinoma. Front. Immunol. 14: 1166497.

RESEARCH USE

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

PROTOCOLS

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