SANTA CRUZ BIOTECHNOLOGY, INC.

CD47 (BRIC 126): sc-59079

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

CD47 is an integral membrane protein that plays a role in the regulation of cation fluxes across cell membranes. Specifically, CD47 is involved in the increase in intracellular calcium concentration that occurs upon cell adhesion to the extracellular matrix. It is also a receptor for the C-terminal cell binding domain of thrombospondin (SIRP). CD47 is absent from Rh-null erythrocytes, but does play a role in cell adhesion in non-erythroid cells and may prevent premature elimination of erythrocytes. It may also be involved in membrane permeability changes following viral infection. CD47 is expressed on hemopoietic cells, epithelial cells, endothelial cells and fibroblasts and is strongly expressed in brain and mesenchymal cells.

CHROMOSOMAL LOCATION

Genetic locus: CD47 (human) mapping to 3q13.12.

SOURCE

CD47 (BRIC 126) is a mouse monoclonal antibody raised against erythrocytes 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.

CD47 (BRIC 126) is available conjugated to agarose (sc-59079 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-59079 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-59079 PE), fluorescein (sc-59079 FITC), Alexa Fluor® 488 (sc-59079 AF488), Alexa Fluor® 546 (sc-59079 AF546), Alexa Fluor® 594 (sc-59079 AF594) or Alexa Fluor® 647 (sc-59079 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-59079 AF680) or Alexa Fluor® 790 (sc-59079 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

CD47 (BRIC 126) is recommended for detection of CD47 of human, bovine, porcine and canine 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) and flow cytometry (1 µg per 1 x 10^6 cells).

Suitable for use as control antibody for CD47 siRNA (h): sc-35006, CD47 shRNA Plasmid (h): sc-35006-SH and CD47 shRNA (h) Lentiviral Particles: sc-35006-V.

Molecular Weight of CD47: 47-60 kDa.

Positive Controls: CD47 (h): 293 Lysate: sc-112975, CCRF-CEM cell lysate: sc-2225 or human platelet extract: sc-363773.

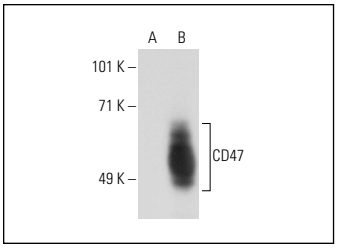
STORAGE

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

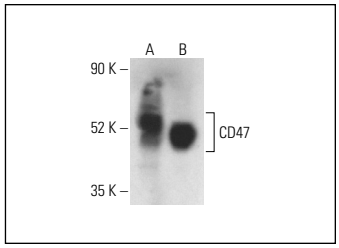
RESEARCH USE

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

DATA



CD47 (BRIC 126): sc-59079. Western blot analysis of CD47 expression in non-transfected: sc-110760 (**A**) and human CD47 transfected: sc-112975 (**B**) 293 whole cell lysates.



CD47 (BRIC 126) HRP: sc-59079 HRP. Direct western blot analysis of CD47 expression in CCRF-CEM whole cell lysate (**A**) and human platelet extract (**B**).

SELECT PRODUCT CITATIONS

1. Mizukami, Y., et al. 2014. MHC-matched induced pluripotent stem cells can attenuate cellular and humoral immune responses but are still susceptible to innate immunity in pigs. PLoS ONE 9: e98319.
2. Leclair, P. and Lim, C.J. 2014. CD47-independent effects mediated by the TSP-derived 4N1K peptide. PLoS ONE 9: e98358.
3. Berkovits, B.D. and Mayr, C. 2015. Alternative 3' UTRs act as scaffolds to regulate membrane protein localization. Nature 522: 363-367.
4. Gruber, A.J., et al. 2016. A comprehensive analysis of 3' end sequencing data sets reveals novel polyadenylation signals and the repressive role of heterogeneous ribonucleoprotein C on cleavage and polyadenylation. Genome Res. 26: 1145-1159.
5. Leclair, P., et al. 2018. CD47-ligation induced cell death in T-acute lymphoblastic leukemia. Cell Death Dis. 9: 544.
6. Wu, Z., et al. 2019. Identification of glutaminyl cyclase isoenzyme isoQC as a regulator of SIRPα-CD47 axis. Cell Res. 29: 502-505.
7. Hameed, A.M., et al. 2020. Pharmacologic targeting of renal ischemia-reperfusion injury using a normothermic machine perfusion platform. Sci. Rep. 10: 6930.
8. Musicò, A., et al. 2023. Surface functionalization of extracellular vesicle nanoparticles with antibodies: a first study on the protein corona "variable". Nanoscale Adv. 5: 4703-4717.

PROTOCOLS

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