SANTA CRUZ BIOTECHNOLOGY, INC.

CD59 (H-7): sc-133170

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

CD59 is a GPI-anchored glycoprotein that is expressed on leukocytes, vascular endothelial cells, various epithelial cells and placenta. CD59 acts together with CD58 in mediating T cell adhesion and activation, and it may be a second ligand of CD2. CD59 functions as a regulator of the terminal pathway of complement by binding to the C8/C9 components of the assembling membrane attack complex (MAC) on host cell membranes, to stop the formation of the lytic pore. CD59 also drives both calcium release and activation of lipid-raft associated signalling molecules such as tyrosine kinases. CD59 gene has two p53-responsive domains that may be implicated in the defense of host cells from damage by the complement system in inflammation, suggesting that p53 could be used to mediate susceptibility of tumor cells to the complement lysis during chemotherapy.

CHROMOSOMAL LOCATION

Genetic locus: CD59 (human) mapping to 11p13; Cd59a (mouse) mapping to 2 E2.

SOURCE

CD59 (H-7) is a mouse monoclonal antibody raised against amino acids 26-110 mapping within an internal region of CD59 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.

CD59 (H-7) is available conjugated to agarose (sc-133170 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-133170 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-133170 PE), fluorescein (sc-133170 FITC), Alexa Fluor® 488 (sc-133170 AF488), Alexa Fluor® 546 (sc-133170 AF546), Alexa Fluor® 594 (sc-133170 AF594) or Alexa Fluor® 647 (sc-133170 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-133170 AF680) or Alexa Fluor® 790 (sc-133170 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

CD59 (H-7) is recommended for detection of CD59 of mouse, rat and 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 CD59 siRNA (h): sc-37249, CD59 siRNA (m): sc-35014, CD59 shRNA Plasmid (h): sc-37249-SH, CD59 shRNA Plasmid (m): sc-35014-SH, CD59 shRNA (h) Lentiviral Particles: sc-37249-V and CD59 shRNA (m) Lentiviral Particles: sc-35014-V.

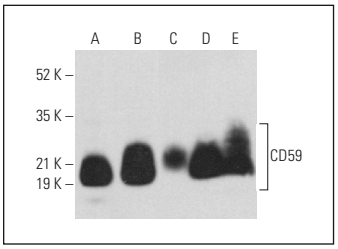
Molecular Weight of CD59: 20 kDa.

Positive Controls: HUV-EC-C whole cell lysate: sc-364180, A-431 whole cell lysate: sc-2201 or ES-2 cell lysate: sc-24674.

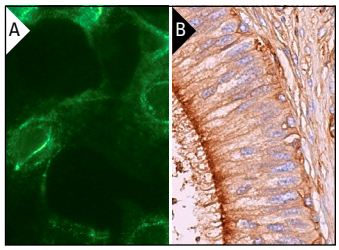
STORAGE

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

DATA



CD59 (H-7): sc-133170. Western blot analysis of CD59 expression in Caki-1 (**A**), ES-2 (**B**), A-431 (**C**), HUV-EC-C (**D**) and HeLa (**E**) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



CD59 (H-7): sc-133170. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing membrane localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human epididymis tissue showing apical membrane and cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Du, Y., et al. 2014. NFκB and enhancer-binding CREB protein scaffolded by CREB-binding protein (CBP)/p300 proteins regulate CD59 protein expression to protect cells from complement attack. J. Biol. Chem. 289: 2711-2724.
2. Ouyang, Q., et al. 2016. The membrane complement regulatory protein CD59 promotes tumor growth and predicts poor prognosis in breast cancer. Int. J. Oncol. 48: 2015-2024.
3. Chen, J., et al. 2017. CD59 regulation by SOX2 is required for epithelial cancer stem cells to evade complement surveillance. Stem Cell Reports 8: 140-151.
4. Wan, Y., et al. 2018. Aptamer-conjugated extracellular nanovesicles for targeted drug delivery. Cancer Res. 78: 798-808.
5. Lee, W.K., et al. 2019. Peripheral location and infiltrative margin predict invasive features of papillary thyroid microcarcinoma. Eur. J. Endocrinol. 181: 139-149.
6. Ivashenka, A., et al. 2021. Glycolipid-dependent and lectin-driven transcytosis in mouse enterocytes. Commun. Biol. 4: 173.
7. Yang, H.W., et al. 2021. Deletions in CWH43 cause idiopathic normal pressure hydrocephalus. EMBO Mol. Med. 13: e13249.
8. Ge, X., et al. 2021. Herbal NFκB inhibitors sensitize rituximab-resistant B lymphoma cells to complement-mediated cytolysis. Front. Oncol. 11: 751904.
9. Do, M.H., et al. 2022. CD46 protects the bladder cancer cells from cetuximab-mediated cytotoxicity. Sci. Rep. 12: 22420.

RESEARCH USE

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