SANTA CRUZ BIOTECHNOLOGY, INC.

CD39 (A-16): sc-18771

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

CD39, also known as ectonucleoside triphosphate diphosphohydrolase 1 (ENP1), is an integral membrane glycoprotein that acts as an extracellular nucleotide-hydrolyzing enzyme. CD39 inhibits ADP-induced platelet aggregation by hydrolyzing ADP to AMP, and ultimately generating adenosine. Intracellular CD39 undergoes glycosylation at six N-glycosylation sites and translocates to the membrane in order to be an active enzyme. Alternative splicing gives rise to three CD39 isoforms, vascular, placenta I and placenta II. The placenta I isoform differs at the amino terminus whereas the placenta II isoform is missing amino acids 300-510 at the C-terminus. CD39 is expressed in vascular tissues including placenta, lung, skeletal muscle and kidney, as well as endothelium, smooth muscle, cardiac cells, lymphocytes, such as activated B cells, activated NK cells, macrophages, dendridic cells and platelets. CD39 may be used as an anti-thrombic agent for pre-treating patients at risk for coronary artery occlusion and thrombic stroke.

REFERENCES

1. Kansas, G.S., Wood, G.S., and Tedder, T.F. 1991. Expression, distribution, and biochemistry of human CD39. Role in activation-associated homotypic adhesion of lymphocytes. J. Immunol. 146: 2235-2244.
2. Kaczmarek, E., Koziak, K., Sevigny, J., Siegel, J.B., Anrather, J., Beaudoin, A.R., Bach, F.H., and Robson, S.C. 1996. Identification and characterization of CD39/vascular ATP diphosphohydrolase. J. Biol. Chem. 271: 33116-33122.
3. Marcus, A.J., Broekman, M.J., Drosopoulos, J.H., Pinsky, D.J., Islam, N., and Maliszewsk, C.R. 2001. Inhibition of platelet recruitment by endothelial cell CD39/ecto-ADPase: significance for occlusive vascular diseases. Ital. Heart J. 2: 824-830.
4. Zhong, X., Malhotra, R., Woodruff, R., and Guidotti, G. 2001. Mammalian plasma membrane ecto-nucleoside triphosphate diphosphohydrolase 1, CD39, is not active intracellularly. J. Biol. Chem. 276: 41518-41525.
5. Kittel, A., Garrido, M., and Varga, G. 2002. Localization of NTPDase1/CD39 in normal and transformed human pancreas. J. Histochem. Cytochem. 50: 549-556.
6. SWISS-PROT/TrEMBL (P49961). World Wide Web URL: http://www.expasy.ch/sprot/sprot-top.html

SOURCE

CD39 (A-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CD39 of mouse origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-18771 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

CD39 (A-16) is recommended for detection of CD39 of mouse and rat 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

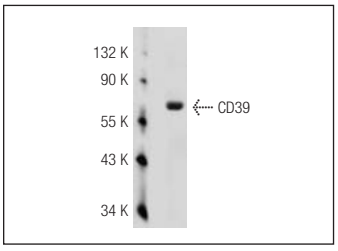
Suitable for use as control antibody for CD39 siRNA (m): sc-42786.

Molecular Weight of CD39: 70-100 kDa.

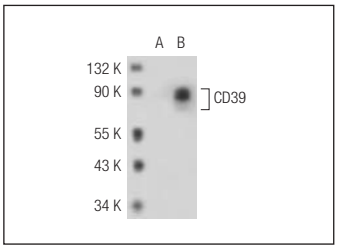
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



CD39 (A-16): sc-18771. Western blot analysis of CD39 expression in rat placenta tissue extract.



CD39 (A-16): sc-18771. Western blot analysis of CD39 expression in non-transfected: sc-117752 (**A**) and mouse CD39 transfected: sc-119105 (**B**) 293T whole cell lysates.

STORAGE

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

PROTOCOLS

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