

CD39 (m): 293T Lysate: sc-119105

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, dendritic cells and platelets. CD39 may be used as an anti-thrombotic agent for pre-treating patients at risk for coronary artery occlusion and thrombotic 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., Seigny, 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 Maliszewski, 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>

CHROMOSOMAL LOCATION

Genetic locus: Entpd1 (mouse) mapping to 19 C3.

PRODUCT

CD39 (m): 293T Lysate represents a lysate of mouse CD39 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

RESEARCH USE

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

APPLICATIONS

CD39 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive CD39 antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

PROTOCOLS

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