

# CD39 (A-20): sc-18766

## 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 3 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

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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.
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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.
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## CHROMOSOMAL LOCATION

Genetic locus: ENTPD1 (human) mapping to 10q24.1; Entpd1 (mouse) mapping to 19 C3.

## SOURCE

CD39 (A-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of CD39 of human origin.

## STORAGE

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

## 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-18766 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

CD39 (A-20) is recommended for detection of CD39 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

CD39 (A-20) is also recommended for detection of CD39 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for CD39 siRNA (h): sc-42785, CD39 siRNA (m): sc-42786, CD39 shRNA Plasmid (h): sc-42785-SH, CD39 shRNA Plasmid (m): sc-42786-SH, CD39 shRNA (h) Lentiviral Particles: sc-42785-V and CD39 shRNA (m) Lentiviral Particles: sc-42786-V.

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) 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.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.