

CD77 synthase (T-20): sc-27698

BACKGROUND

Expression of CD77, also called Gb3, sensitizes a cell to verotoxins, causing cellular injury that can lead to disease. Therefore, the complex regulation of CD77 biosynthesis and the activity of the enzymes involved, such as CD77 synthase, can be studied by compared gene expression between toxin-sensitive and insensitive tissues and cell lines. The highest tissue expression of CD77 synthase occurs in the kidney, mesenteric lymph node, spleen, and brain. Burkitt leukemia cells express very high levels of CD77 as well as CD77 synthase, and are sensitive to verotoxin induced apoptosis. These megakaryoblasts then never mature, leading to the arrest of platelet generation in the bone marrow, which may cause thrombocytopenia, a symptom associated with various hemorrhagic conditions.

REFERENCES

1. Kojima Y, et al. 2000. Molecular cloning of globotriaosylceramide/CD77 synthase, a glycosyltransferase that initiates the synthesis of globo series glycosphingolipids. *J Biol. Chem.* 275: 15152-15156.
2. Keusch, J.J., et al. 2000. Cloning of Gb3 synthase, the key enzyme in globo-series glycosphingolipid synthesis, predicts a family of alpha 1, 4-glycosyltransferases conserved in plants, insects, and mammals. *J. Biol. Chem.* 275: 25315-25321.
3. Okajima T, et al. 2000. Expression cloning of human globoside synthase cDNAs. Identification of beta 3Gal-T3 as UDP-N-acetylgalactosamine: globotriaosylceramide β 1,3-N-acetylgalactosaminyltransferase. *J Biol. Chem.* 275: 40498-40503.
4. Hughes, A.K., et al. 2002. Molecular basis for high renal cell sensitivity to the cytotoxic effects of shigatoxin-1: upregulation of globotriaosylceramide expression. *J. Am. Soc. Nephrol.* 13: 2239-4225.
5. Furukawa, K., et al. 2002. Expression of the Gb3/CD77 synthase gene in megakaryoblastic leukemia cells: implication in the sensitivity to verotoxins. *J. Biol. Chem.* 277: 11247-11254.

CHROMOSOMAL LOCATION

Genetic locus: A4GALT (human) mapping to 22q13.2; A4galt (mouse) mapping to 15 E1.

SOURCE

CD77 synthase (T-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a luminal domain of CD77 synthase of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-27698 P, (100 μ g 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

CD77 synthase (T-20) is recommended for detection of CD77 synthase of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

CD77 synthase (T-20) is also recommended for detection of CD77 synthase in additional species, including canine and porcine.

Suitable for use as control antibody for CD77 synthase siRNA (h): sc-72831, CD77 synthase siRNA (m): sc-72832, CD77 synthase shRNA Plasmid (h): sc-72831-SH, CD77 synthase shRNA Plasmid (m): sc-72832-SH, CD77 synthase shRNA (h) Lentiviral Particles: sc-72831-V and CD77 synthase shRNA (m) Lentiviral Particles: sc-72832-V.

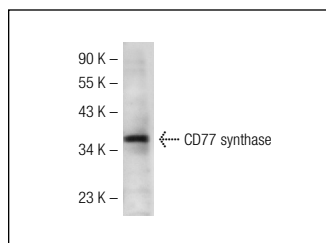
Molecular Weight of CD77 synthase: 40 kDa.

Positive Controls: Daudi cell lysate: sc-2415.

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



CD77 synthase (T-20): sc-27698. Western blot analysis of CD77 synthase expression in Daudi whole cell lysate.

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.