SANTA CRUZ BIOTECHNOLOGY, INC.

MCT2 (M-90): sc-50323

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Monocarboxylates, such as lactate and pyruvate, play an integral role in cellular metabolism. Lactic acid is produced in large quantities as a result of glycolysis, which provides the majority of ATP to cells under normal physiological conditions. However, accumulation of lactic acid leads to a decrease in intracellular pH and cessation of glycolysis. In order for glycolysis to continue at a high rate, lactic acid must be transported out of the cell. This transport process is carried out by a family of monocarboxylate transporters (MCTs), which function as proton symports and are stereoselective for L-lactate. The MCT family consists of at least 8 members, MCT1-8, which contain between 10-12 transmembrane-helical (TM) domains, with the amino and carboxy termini located in the cytoplasm. MCT1 is widely expressed and is the major form of MCTs in tumor cells and erythrocytes. MCT2 is highly expressed in liver and testis, while MCT3 and MCT4 are predominantly expressed in skeletal muscle.

CHROMOSOMAL LOCATION

Genetic locus: Slc16a7 (mouse) mapping to 10 D3.

SOURCE

MCT2 (M-90) is a rabbit polyclonal antibody raised against amino acids 391-480 mapping at the C-terminus of MCT2 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.

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.

APPLICATIONS

MCT2 (M-90) is recommended for detection of MCT2 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 MCT2 siRNA (m): sc-40116, MCT2 shRNA Plasmid (m): sc-40116-SH and MCT2 shRNA (m) Lentiviral Particles: sc-40116-V.

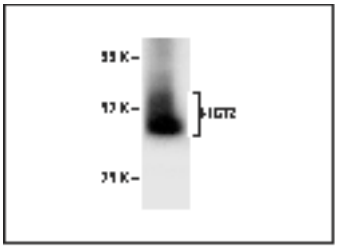
Molecular Weight of MCT2: 40 kDa.

Positive Controls: LADMAC whole cell lysate: sc-364189, NIH/3T3 whole cell lysate: sc-2210 or mouse testis extract: sc-2405.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



SELECT PRODUCT CITATIONS

1. Nguyen, T.T. and Bonanno, J.A. 2011. Bicarbonate, NBCe1, NHE, and carbonic anhydrase activity enhance lactate-H^+ transport in bovine corneal endothelium. Invest. Ophthalmol. Vis. Sci. 52: 8086-8093.
2. Nguyen, T.T. and Bonanno, J.A. 2012. Lactate-H^+ transport is a significant component of the *in vivo* corneal endothelial pump. Invest. Ophthalmol. Vis. Sci. 53: 2020-2029.

RESEARCH USE

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