**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, MCT-1-8, which contain between 10-12 transmembrane-helical domains, with the amino- and carboxy-termini located in the cytoplasm. MCT1 is widely expressed and is the major form of MCT 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: SLC16A1 (human) mapping to 1p13.2.

**SOURCE**

MCT1 (H-1) is a mouse monoclonal antibody raised against amino acids 191-260 mapping within a cytoplasmic domain of MCT1 of human origin.

**PRODUCT**

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

MCT1 (H-1) is available conjugated to agarose (sc-365501 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365501 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365501 PE), fluorescein (sc-365501 FITC), Alexa Fluor® 488 (sc-365501 AF488), Alexa Fluor® 546 (sc-365501 AF546), Alexa Fluor® 594 (sc-365501 AF594) or Alexa Fluor® 647 (sc-365501 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365501 AF680) or Alexa Fluor® 790 (sc-365501 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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**APPLICATIONS**

MCT1 (H-1) is recommended for detection of MCT1 of human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (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 MCT1 siRNA (h): sc-37235, MCT1 shRNA Plasmid (h): sc-37235-SH and MCT1 shRNA (h) Lentiviral Particles: sc-37235-V.

Molecular Weight of MCT1: 40-48 kDa.

Positive Controls: A-673 cell lysate: sc-2223, Hep G2 cell lysate: sc-2227 or BT-20 cell lysate: sc-2223.

**STORAGE**

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

**DATA**

MCT1 (H-1): sc-365501. Direct western blot analysis of MCT1 expression in A-673 [A], SW480 [B], HEL 92.1.7 [C], BT-20 [D] and Hep G2 [E] whole cell lysates.


**SELECT PRODUCT CITATIONS**


**RESEARCH USE**

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