

MCT12 (C-14): sc-104978

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, thus, to a 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. MCT12 (monocarboxylate transporter 12), also known as SLC16A12 (solute carrier family 16, member 12) or CJMG, is a 486 amino acid multi-pass membrane protein that belongs to the MCT family and functions as a proton-linked monocarboxylate transporter, effectively catalyzing the rapid transport of monocarboxylates across the membrane. MCT12 is highly expressed in lung, kidney, testis and retina and, when defective, is associated with the pathogenesis of cataract juvenile with microcornea and glucosuria (CJMG).

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: SLC16A12 (human) mapping to 10q23.31; Slc16a12 (mouse) mapping to 19 C1.

SOURCE

MCT12 (C-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a C-terminal extracellular domain of MCT12 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-104978 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MCT12 (C-14) is recommended for detection of MCT12 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); non cross-reactive with other MCT family members.

MCT12 (C-14) is also recommended for detection of MCT12 in additional species, including canine and bovine.

Suitable for use as control antibody for MCT12 siRNA (h): sc-90522, MCT12 siRNA (m): sc-149325, MCT12 shRNA Plasmid (h): sc-90522-SH, MCT12 shRNA Plasmid (m): sc-149325-SH, MCT12 shRNA (h) Lentiviral Particles: sc-90522-V and MCT12 shRNA (m) Lentiviral Particles: sc-149325-V.

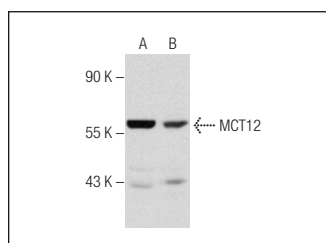
Molecular Weight of MCT12: 53 kDa.

Positive Controls: Human kidney tissue extract or A-375 cell lysate: sc-3811.

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



MCT12 (C-14): sc-104978. Western blot analysis of MCT12 expression in human kidney tissue extract (A) and A-375 whole cell lysate (B).

STORAGE

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

RESEARCH USE

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