

MCT13 (D-12): sc-377128

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. MCT13 (monocarboxylate transporter 13), also known as SLC16A13 (solute carrier family 16 member 13), is a 426 amino acid multi-pass membrane protein that belongs to the MCT transport family. Functioning as a proton-linked monocarboxylate transporter, MCT13 catalyzes the rapid transports of molecules, such as lactate, across the plasma membrane.

REFERENCES

1. Halestrap, A.P., et al. 2004. The SLC16 gene family-from monocarboxylate transporters (MCTs) to aromatic amino acid transporters and beyond. *Plflugers Arch.* 447: 619-628.
2. Koho, N.M., et al. 2006. Monocarboxylate transporters (MCT) as lactate carriers in equine muscle and red blood cells. *Equine Vet. J. Suppl.* E-published.
3. Hirai, T., et al. 2007. PPAR α agonists positively and negatively regulate the expression of several nutrient/drug transporters in mouse small intestine. *Biol. Pharm. Bull.* 30: 2185-2190.

CHROMOSOMAL LOCATION

Genetic locus: SLC16A13 (human) mapping to 17p13.1; Slc16a13 (mouse) mapping to 11 B3.

SOURCE

MCT13 (D-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 351-381 within a cytoplasmic domain of MCT13 of human origin.

PRODUCT

Each vial contains 200 μ g IgG $_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MCT13 (D-12) is available conjugated to agarose (sc-377128 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377128 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377128 PE), fluorescein (sc-377128 FITC), Alexa Fluor[®] 488 (sc-377128 AF488), Alexa Fluor[®] 546 (sc-377128 AF546), Alexa Fluor[®] 594 (sc-377128 AF594) or Alexa Fluor[®] 647 (sc-377128 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-377128 AF680) or Alexa Fluor[®] 790 (sc-377128 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-377128 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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APPLICATIONS

MCT13 (D-12) is recommended for detection of MCT13 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

MCT13 (D-12) is also recommended for detection of MCT13 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for MCT13 siRNA (h): sc-93687, MCT13 siRNA (m): sc-149326, MCT13 shRNA Plasmid (h): sc-93687-SH, MCT13 shRNA Plasmid (m): sc-149326-SH, MCT13 shRNA (h) Lentiviral Particles: sc-93687-V and MCT13 shRNA (m) Lentiviral Particles: sc-149326-V.

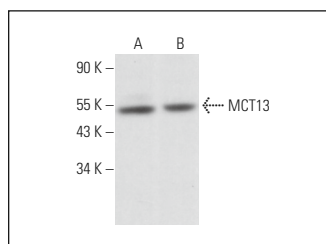
Molecular Weight of MCT13: 45 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, PC-12 cell lysate: sc-2250 or CCRF-CEM cell lysate: sc-2225.

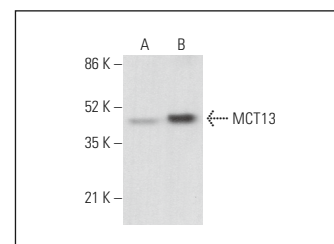
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 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 m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



MCT13 (D-12): sc-377128. Western blot analysis of MCT13 expression in NIH/3T3 (A) and PC-12 (B) whole cell lysates.



MCT13 (D-12): sc-377128. Western blot analysis of MCT13 expression in CCRF-CEM (A) and PC-12 (B) whole cell lysates. Detection reagent used: m-IgG κ BP-HRP: sc-516102.

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.