

# MCT13 (T-13): sc-109325

## 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

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- Koho, N.M., Hyypää, S. and Pösö, A.R. 2006. Monocarboxylate transporters (MCT) as lactate carriers in equine muscle and red blood cells. *Equine Vet. J. Suppl.* 36: 354-358.
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- Hashimoto, T. and Brooks, G.A. 2008. Mitochondrial lactate oxidation complex and an adaptive role for lactate production. *Med. Sci. Sports Exerc.* 40: 486-494.
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- Meredith, D. and Christian, H.C. 2008. The SLC16 monocarboxylate transporter family. *Xenobiotica* 38: 1072-1106.

## CHROMOSOMAL LOCATION

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

## SOURCE

MCT13 (T-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of MCT13 of human origin.

## STORAGE

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

## PRODUCT

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

Blocking peptide available for competition studies, sc-109325 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

MCT13 (T-13) is recommended for detection of MCT13 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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 (T-13) 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.

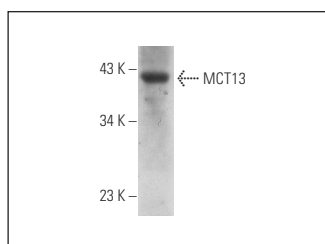
Molecular Weight of MCT13: 45 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, SK-BR-3 cell lysate: sc-2218 or mouse pancreas extract: sc-364249.

## 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



MCT13 (T-13): sc-109325. Western blot analysis of MCT13 expression in SK-BR-3 whole cell lysate.

## RESEARCH USE

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