10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

MCT1 (SLC16A1) Antibody (Center) Blocking peptide
Synthetic peptide
Catalog # BP2753c

Specification

MCT1 (SLC16A1) Antibody (Center) Blocking peptide - Product Information

Primary Accession P53985

MCT1 (SLC16A1) Antibody (Center) Blocking peptide - Additional Information

Gene ID 6566

Other Names
Monocarboxylate transporter 1, MCT 1, Solute carrier family 16 member 1, SLC16A1, MCT1

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP2753c was selected from the Center region of human SLC16A1. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

MCT1 (SLC16A1) Antibody (Center) Blocking peptide - Protein Information

Name SLC16A1 (HGNC:10922)

Synonyms MCT1

Function
Bidirectional proton-coupled monocarboxylate transporter (PubMed:12946269, PubMed:33333023, PubMed:32946811). Catalyzes the rapid transport across the plasma membrane of many monocarboxylates such as lactate, pyruvate, acetate and the ketone bodies acetoacetate and beta-hydroxybutyrate, and thus contributes to the maintenance of intracellular pH (PubMed:12946269, PubMed:33333023). The transport direction is determined by the proton motive force and the concentration gradient of the

substrate monocarboxylate. MCT1 is a major lactate exporter (By similarity). Plays a role in cellular responses to a high-fat diet by modulating the cellular levels of lactate and pyruvate that contribute to the regulation of central metabolic pathways and insulin secretion, with concomitant effects on plasma insulin levels and blood glucose homeostasis (By similarity). Facilitates the protonated monocarboxylate form of succinate export, that its transient protonation upon muscle cell acidification in exercising muscle and ischemic heart (PubMed:32946811). Functions via alternate outward- and inward-open conformation states. Protonation and deprotonation of 309-Asp is essential for the conformational transition (PubMed:33333023).

Cellular Location
Cell membrane; Multi-pass membrane protein. Basolateral cell membrane {ECO:0000250|UniProtKB:P53987}; Multi-pass membrane protein. Apical cell membrane; Multi-pass membrane protein {ECO:0000250|UniProtKB:P53987}. Note=Expression at the cell surface requires the ancillary proteins BSG and EMB. Binds preferentially to BSG.

Tissue Location
Widely expressed (PubMed:15901598, PubMed:15505343, PubMed:12115955). Detected in heart and in blood lymphocytes and monocytes (at protein level) (PubMed:15505343)

MCT1 (SLC16A1) Antibody (Center) Blocking peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

MCT1 (SLC16A1) Antibody (Center) Blocking peptide - Images

MCT1 (SLC16A1) Antibody (Center) Blocking peptide - Background

SLC16A1 is a monocarboxylate transporter (MCT1) that mediates the movement of lactate and pyruvate across cell membranes. Import and export of these substrates by tissues such as erythrocytes, muscle, intestine, and kidney are ascribed largely to the action of a proton-coupled MCT (Garcia et al., 1994 [PubMed 8124722]).

MCT1 (SLC16A1) Antibody (Center) Blocking peptide - References

Pinheiro,C., Virchows Arch. 452 (2), 139-146 (2008)Otonkoski,T., Am. J. Hum. Genet. 81 (3), 467-474 (2007)Martin-Venegas,R., J. Nutr. 137 (1), 49-54 (2007)