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SLC19A1 Blocking Peptide (Center)
Synthetic peptide
Catalog # BP20133c

Specification

SLC19A1 Blocking Peptide (Center) - Product Information

Primary Accession	P41440
Other Accession	NP_919231.1

SLC19A1 Blocking Peptide (Center) - Additional Information

Gene ID 6573

Other Names
Folate transporter 1, FOLT, Intestinal folate carrier 1, IFC-1, Placental folate transporter, Reduced folate carrier protein, RFC, Solute carrier family 19 member 1, SLC19A1, FLOT1, RFC1

Target/Specificity
The synthetic peptide sequence is selected from aa 206-218 of HUMAN SLC19A1

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.

SLC19A1 Blocking Peptide (Center) - Protein Information

Name SLC19A1 (HGNC:10937)

Function
Antiporter that mediates the import of reduced folates or a subset of cyclic dinucleotides, driven by the export of organic anions (PubMed:7826387, PubMed:9041240, PubMed:10787414, PubMed:15337749, PubMed:16115875, PubMed:22554803, PubMed:31511694, PubMed:31126740, PubMed:32276275). Mechanistically, acts as a secondary active transporter, which exports intracellular organic anions down their concentration gradients to facilitate the uptake of its substrates (PubMed:<a href="http://www.uniprot.org/citations/22554803"

target="_blank">22554803, PubMed:31511694, PubMed:31126740). Has high affinity for N5-methyltetrahydrofolate, the predominant circulating form of folate (PubMed:10787414, PubMed:14609557, PubMed:22554803). Also able to mediate the import of antifolate drug methotrexate (PubMed:7615551, PubMed:7641195, PubMed:9767079, PubMed:22554803). Also acts as an importer of immunoreactive cyclic dinucleotides, such as cyclic GMP-AMP (2'-3'-cGAMP), an immune messenger produced in response to DNA virus in the cytosol, and its linkage isomer 3'-3'-cGAMP, thus playing a role in triggering larger immune responses (PubMed:31511694, PubMed:31126740). 5-amino-4-imidazolecarboxamide riboside (AICAR), when phosphorylated to AICAR monophosphate, can serve as an organic anion for antiporter activity (PubMed:22554803).

Cellular Location
Cell membrane; Multi-pass membrane protein. Apical cell membrane; Multi-pass membrane protein. Basolateral cell membrane; Multi-pass membrane protein

Tissue Location
Placenta, liver, and to a much smaller extent, in lung.

SLC19A1 Blocking Peptide (Center) - Protocols

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

- Blocking Peptides

SLC19A1 Blocking Peptide (Center) - Images

SLC19A1 Blocking Peptide (Center) - Background

Transport of folate compounds into mammalian cells can occur via receptor-mediated (see MIM 136430) or carrier-mediated mechanisms. A functional coordination between these 2 mechanisms has been proposed to be the method of folate uptake in certain cell types. Methotrexate (MTX) is an antifolate chemotherapeutic agent that is actively transported by the carrier-mediated uptake system. RFC1 plays a role in maintaining intracellular concentrations of folate.

SLC19A1 Blocking Peptide (Center) - References

Bailey, S.D., et al. Diabetes Care 33(10):2250-2253(2010)
Locke, A.E., et al. Genet. Epidemiol. 34(6):613-623(2010)
Adjei, A.A., et al. J Thorac Oncol 5(9):1346-1353(2010)
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Tsunoda, A., et al. Ann. Oncol. (2010) In press :