

SLC19A1 (D-6): sc-271276

BACKGROUND

SLC19A1 (solute carrier family 19 member 1), also designated reduced folate carrier protein (RFC-1), folate transporter 1, placental folate transporter (FOLT), or intestinal folate carrier (IFC-1), is a multi-pass membrane protein that acts as a transporter for folate intake. In human placental choriocarcinoma cells, folate intake occurs via potocytosis, a mechanism that couples three components: folate receptor, folate transporter and a H⁺-pump. SLC19A1 is a heavily glycosylated protein that is primarily detected in liver and placenta. SLC19A1 mediates the uptake of methotrexate (MTX), the antifolate drug widely used as both an anticancer chemotherapeutic drug and as an immunosuppressive agent. MTX mimics natural folates to inhibit critical cellular biosynthetic pathways.

REFERENCES

1. Moscow, J.A., et al. 1995. Isolation of a gene encoding a human reduced folate carrier (RFC1) and analysis of its expression in transport-deficient, methotrexate-resistant human breast cancer cells. *Cancer Res.* 55: 3790-3794.
2. Prasad, P.D., et al. 1995. Molecular cloning of the human placental folate transporter. *Biochem. Biophys. Res. Commun.* 206: 681-687.
3. Wong, S.C., et al. 1995. Isolation of human cDNAs that restore methotrexate sensitivity and reduced folate carrier activity in methotrexate transport-defective Chinese hamster ovary cells. *J. Biol. Chem.* 270: 17468-17475.
4. Chiao, J.H., et al. 1997. RFC-1 gene expression regulates folate absorption in mouse small intestine. *J. Biol. Chem.* 272: 11165-11170.

CHROMOSOMAL LOCATION

Genetic locus: Slc19a1 (mouse) mapping to 10 C1.

SOURCE

SLC19A1 (D-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 476-509 at the C-terminus of SLC19A1 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SLC19A1 (D-6) is available conjugated to agarose (sc-271276 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271276 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271276 PE), fluorescein (sc-271276 FITC), Alexa Fluor[®] 488 (sc-271276 AF488), Alexa Fluor[®] 546 (sc-271276 AF546), Alexa Fluor[®] 594 (sc-271276 AF594) or Alexa Fluor[®] 647 (sc-271276 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-271276 AF680) or Alexa Fluor[®] 790 (sc-271276 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-271276 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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APPLICATIONS

SLC19A1 (D-6) is recommended for detection of SLC19A1 of mouse origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

Suitable for use as control antibody for SLC19A1 siRNA (m): sc-37632, SLC19A1 siRNA (m2): sc-61463, SLC19A1 shRNA Plasmid (m): sc-37632-SH, SLC19A1 shRNA Plasmid (m2): sc-61463-SH, SLC19A1 shRNA (m) Lentiviral Particles: sc-37632-V and SLC19A1 shRNA (m2) Lentiviral Particles: sc-61463-V.

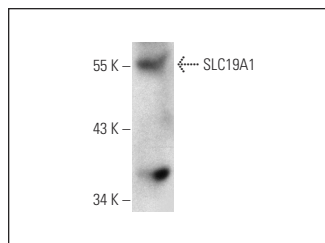
Molecular Weight of human SLC19A1: 58 kDa.

Molecular Weight of glycosylated SLC19A1: 92 kDa.

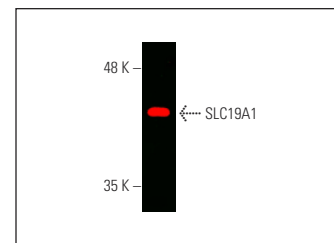
Molecular Weight of mouse SLC19A1 isoforms: 58/54/43 kDa.

Positive Controls: c4 whole cell lysate: sc-364186.

DATA



SLC19A1 (D-6): sc-271276. Western blot analysis of SLC19A1 expression in c4 whole cell lysate.



SLC19A1 (D-6): sc-271276. Near-Infrared western blot analysis of SLC19A1 expression in c4 whole cell lysate. Blocked with UltraCruz[®] Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 790: sc-516181.

SELECT PRODUCT CITATIONS

1. Mairinger, F., et al. 2013. Reduced folate carrier and folypolyglutamate synthetase, but not thymidylate synthase predict survival in pemetrexed-treated patients suffering from malignant pleural mesothelioma. *J. Thorac. Oncol.* 8: 644-653.
2. Sid, V., et al. 2018. High-fat diet consumption reduces hepatic folate transporter expression via nuclear respiratory factor-1. *J. Mol. Med.* 96: 1203-1213.

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.