SANTA CRUZ BIOTECHNOLOGY, INC.

SLC19A1 (D-4): sc-390948

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

Genetic locus: SLC19A1 (human) mapping to 21q22.3.

SOURCE

SLC19A1 (D-4) is a mouse monoclonal antibody raised against amino acids 407-591 mapping at the C-terminus of SLC19A1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SLC19A1 (D-4) is available conjugated to agarose (sc-390948 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-390948 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390948 PE), fluorescein (sc-390948 FITC), Alexa Fluor® 488 (sc-390948 AF488), Alexa Fluor® 546 (sc-390948 AF546), Alexa Fluor® 594 (sc-390948 AF594) or Alexa Fluor® 647 (sc-390948 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390948 AF680) or Alexa Fluor® 790 (sc-390948 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

SLC19A1 (D-4) is recommended for detection of SLC19A1 of human 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), immunohistochemistry (including paraffin-embedded sections) (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 (h): sc-61462, SLC19A1 shRNA Plasmid (h): sc-61462-SH and SLC19A1 shRNA (h) Lentiviral Particles: sc-61462-V.

Molecular Weight of human RFC-1: 58 kDa.

Molecular Weight of glycosylated RFC-1: 92 kDa.

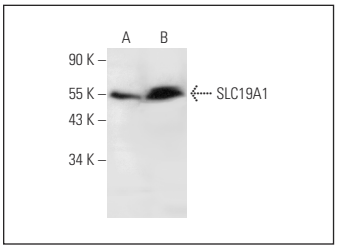
Molecular Weight of mouse RFC-1 isoforms: 58/54/43 kDa.

Positive Controls: JAR cell lysate: sc-2276 or NTERA-2 cl.D1 whole cell lysate: sc-364181.

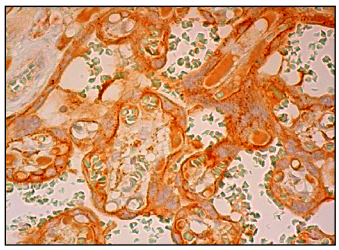
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



SLC19A1 (D-4): sc-390948. Western blot analysis of SLC19A1 expression in JAR (**A**) and NTERA-2 cl.D1 (**B**) whole cell lysates.



SLC19A1 (D-4): sc-390948. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing membrane and cytoplasmic staining of trophoblastic cells.

SELECT PRODUCT CITATIONS

1. Reza-López, S.A., et al. 2018. Folate transporter expression in placenta from pregnancies complicated with birth defects. Birth Defects Res. 110: 1223-1227.
2. Kawami, M., et al. 2019. Reduced folate carrier-mediated methotrexate transport in human distal lung epithelial NCI-H441 cells. J. Pharm. Pharmacol. 71: 167-175.
3. Liu, Y., et al. 2021. Discovery of key genes as novel biomarkers specifically associated with HPV-negative cervical cancer. Mol. Ther. Methods Clin. Dev. 21: 492-506.
4. Wang, Y., et al. 2021. Decitabine sensitizes the radioresistant lung adenocarcinoma to pemetrexed through upregulation of folate receptor α. Front. Oncol. 11: 668798.
5. Okada, M., et al. 2021. Targeting folate metabolism is selectively cytotoxic to glioma stem cells and effectively cooperates with differentiation therapy to eliminate tumor-initiating cells in glioma xenografts. Int. J. Mol. Sci. 22: 11633.

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.