SANTA CRUZ BIOTECHNOLOGY, INC.

RFC-1 (M-62): sc-98970

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Reduced folate carrier protein (RFC-1), also designated 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. RFC-1 is a heavily glycosylated protein that is primarily detected in liver and placenta. RFC-1 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., Gong, M., He, R., Sgagias, M.K., Dixon, K.H., Anzick, S.L., Meltzer, P.S. and Cowan, K.H. 1995. Isolation of a gene encoding a human reduced folate carrier (RFC-1) and analysis of its expression in transport-deficient, methotrexate-resistant human breast cancer cells. Cancer Res. 55: 3790-3794.
2. Prasad, P.D., Ramamoorthy, S., Leibach, F.H. and Ganapathy, V. 1995. Molecular cloning of the human placental folate transporter. Biochem. Biophys. Res. Commun. 206: 681-687.
3. Wong, S.C., Proefke, S.A., Bhushan, A. and Matherly, L.H. 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., Roy, K., Tolner, B., Yang, C.H. and Sirotnak, F.M. 1997. RFC-1 gene expression regulates folate absorption in mouse small intestine. J. Biol. Chem. 272: 11165-11170.
5. Moscow, J.A. 1998. Methotrexate transport and resistance. Leuk. Lymphoma 30: 215-224.

CHROMOSOMAL LOCATION

Genetic locus: SLC19A1 (human) mapping to 21q22.3; Slc19a1 (mouse) mapping to 10 C1.

SOURCE

RFC-1 (M-62) is a rabbit polyclonal antibody raised against amino acids 239-300 mapping within an internal region of RFC-1 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

RFC-1 (M-62) is recommended for detection of RFC-1 of mouse, rat and, to a lesser extent, human origin by Western Blotting (starting dilution 1:200, 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 RFC-1 siRNA (h): sc-61462, RFC-1 siRNA (m): sc-37632, RFC-1 shRNA Plasmid (h): sc-61462-SH, RFC-1 shRNA Plasmid (m): sc-37632-SH, RFC-1 shRNA (h) Lentiviral Particles: sc-61462-V and RFC-1 shRNA (m) Lentiviral Particles: sc-37632-V.

Molecular Weight of human RFC-1: 58 kDa.

Molecular Weight of glycosylated RFC-1: 92 kDa.

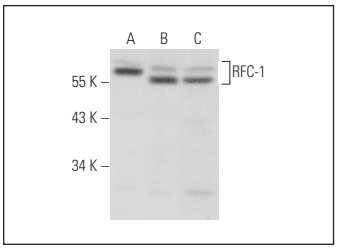
Molecular Weight of mouse RFC-1 isoforms: 58/54/43 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



RFC-1 (M-62): sc-98970. Western blot analysis of RFC-1 expression in Jurkat (**A**), A549 (**B**) and NIH/3T3 (**C**) whole cell lysates.

RESEARCH USE

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

MONOS Satisfaction Guaranteed

Try **RFC-1 (D-4): sc-390948** or **RFC-1 (D-6): sc-271276**, our highly recommended monoclonal alternatives to RFC-1 (M-62).