



FR (42/033): sc-80793

BACKGROUND

Folate is an essential vitamin that must be obtained from food intake through intestinal absorption in mammals. Folate and reduced folic acid derivatives bind to the folate receptor (FR) family, which mediates the endocytosis of 5-methyltetrahydrofolate into the cell. The folate receptors consist of five members, α , β , γ , γ' (which is produced by alternative splicing) and δ . α -FR and β -FR are attached to the membrane by a GPI anchor and are expressed in malignant tissues of epithelial and nonepithelial origin, respectively. γ -FR is expressed in tissues of hematopoietic origin, such as spleen, thymus and bone marrow, but the expression pattern of δ -FR is elusive, which suggests that it is highly restricted both spatially and temporally. α -FR is used as a highly selective tumor marker and may be targeted for the delivery of therapeutic compounds to tumor cells by coupling to derivatives of folic acid.

REFERENCES

1. Prasad, P.D., et al. 1994. Selective expression of the high-affinity isoform of the folate receptor (FR- α) in the human placental syncytiotrophoblast and choriocarcinoma cells. *Biochim. Biophys. Acta.* 1223: 71-75.
2. Shen, F., et al. 1995. Folate receptor type γ is primarily a secretory protein due to lack of an efficient signal for glycosylphosphatidylinositol modification: protein characterization and cell type specificity. *Biochemistry* 34: 5660-5665.
3. Wang, H., et al. 1998. Structure and regulation of a polymorphic gene encoding folate receptor type γ/γ' . *Nucleic Acids Res.* 26: 2132-2142.
4. Said, H.M., et al. 2000. Adaptive regulation of intestinal folate uptake: effect of dietary folate deficiency. *Am. J. Physiol. Cell Physiol.* 279: 1889-1895.
5. Spiegelstein, O., et al. 2000. Identification of two putative novel folate receptor genes in humans and mouse. *Gene.* 258: 117-125.
6. Wang, H., et al. 2000. Differentiation-independent retinoid induction of folate receptor type β , a potential tumor target in myeloid leukemia. *Blood* 96: 3529-3536.
7. Sudimack, J., et al. 2000. Targeted drug delivery via the folate receptor. *Adv. Drug Deliv. Rev.* 41: 147-162.
8. Zhu, W.Y., et al. 2001. The rate of folate receptor α (FR α) synthesis in folate depleted CHL cells is regulated by a translational mechanism sensitive to media folate levels, while stable overexpression of its mRNA is mediated by gene amplification and an increase in transcript half-life. *J. Cell Biochem.* 81: 205-219.

CHROMOSOMAL LOCATION

Genetic locus: FOLR1 (human) mapping to 11q13.4.

SOURCE

FR (42/033) is a mouse monoclonal antibody raised against soluble FR of cow origin.

RESEARCH USE

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

PRODUCT

Each vial contains 100 μ g IgG₁ in 1.0 ml PBS with TBS, 0.1% sodium azide and 1% gelatin.

APPLICATIONS

FR (42/033) is recommended for detection of FR of human, cow origin by solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of FR mature glycoprotein: 36-39 kDa.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.