

FR (FL-257): sc-28997

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 . β -FR is attached to the membrane by a GPI anchor and is expressed in malignant tissues of epithelial and nonepithelial origin. γ -FR is expressed in tissues of hematopoietic origin, such as spleen, thymus and bone marrow. The expression pattern of δ -FR is elusive, which suggests that it is highly restricted both spatially and temporally. The α isoform of the folate receptor 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 (α -FR) 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.

CHROMOSOMAL LOCATION

Genetic locus: FOLR1/FOLR2/FOLR3 (human) mapping to 11q13.4, FOLR4 (human) mapping to 11q21; Folr1/Folr2 (mouse) mapping to 7 E3, Folr4 (mouse) mapping to 9 A2.

SOURCE

FR (FL-257) is a rabbit polyclonal antibody raised against amino acids 1-257 representing full length Folate Receptor α of human origin.

PRODUCT

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

APPLICATIONS

FR (FL-257) is recommended for detection of α , β , γ and, to a lesser extent, δ -FR of human origin and α , β and, to a lesser extent, δ -FR of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

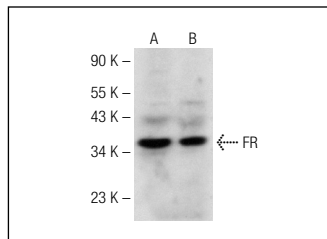
Molecular Weight of mature FR glycoprotein: 36-39 kDa.

Positive Controls: JAR cell lysate: sc-2276, JEG-3 whole cell lysate: sc-364255 or mouse placenta extract: sc-364247.

STORAGE

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

DATA



FR (FL-257): sc-28997. Western blot analysis of FR expression in JAR (A) and JEG-3 (B) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Sánchez-del-Campo, L., et al. 2009. The critical role of α -folate receptor in the resistance of melanoma to methotrexate. *Pigment Cell Melanoma Res.* 22: 588-600.
2. Ayala-López, W., et al. 2010. Imaging of atherosclerosis in apolipoprotein e knockout mice: targeting of a folate-conjugated radiopharmaceutical to activated macrophages. *J. Nucl. Med.* 51: 768-774.
3. Zheng, X., et al. 2011. Indocyanine green-containing nanostructure as near infrared dual-functional targeting probes for optical imaging and photothermal therapy. *Mol. Pharm.* 8: 447-456.
4. Santiesteban, O.J., et al. 2012. Assessment of molecular interactions through magnetic relaxation. *Angew. Chem. Int. Ed. Engl.* 51: 6728-6732.
5. Zhong, J., et al. 2012. *In vivo* photoacoustic therapy with cancer-targeted indocyanine green-containing nanoparticles. *Nanomedicine* 8: 903-919.
6. Boshnjaku, V., et al. 2012. Nuclear localization of folate receptor α : a new role as a transcription factor. *Sci. Rep.* 2: 980.
7. Cherukad, J., et al. 2012. Spatial and temporal expression of folate-related transporters and metabolic enzymes during mouse placental development. *Placenta* 33: 440-448.
8. Dhanasekaran, S., et al. 2013. Augmented sensitivity to methotrexate by curcumin induced overexpression of folate receptor in KG-1 cells. *Biochimie* 95: 1567-1573.

RESEARCH USE

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



Try **FR (E-11): sc-515521** or **β -FR (4B12): sc-293199**, our highly recommended monoclonal alternatives to FR (FL-257).