SANTA CRUZ BIOTECHNOLOGY, INC.

α-FR (F-15): sc-16386

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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-methyltetrahydofolate 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 (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. Sudimack, J., et al. 2000. Targeted drug delivery via the folate receptor. Adv. Drug Deliv. Rev. 41: 147-162.
5. 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.
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.

CHROMOSOMAL LOCATION

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

SOURCE

α-FR (F-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of α-FR of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-16386 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

α-FR (F-15) is recommended for detection of α-FR of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

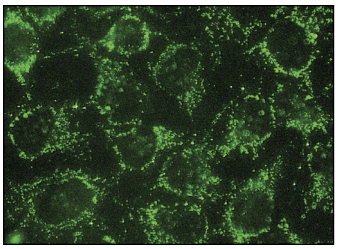
Suitable for use as control antibody for α-FR siRNA (h): sc-39969, α-FR shRNA Plasmid (h): sc-39969-SH and α-FR shRNA (h) Lentiviral Particles: sc-39969-V.

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

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



α-FR (F-15): sc-16386. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Wang, Z.J., et al. 2008. MR imaging of ovarian tumors using folate-receptor-targeted contrast agents. Pediatr. Radiol. 38: 529-537.

RESEARCH USE

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