Folic Acid (FA3): sc-66162



The Power to Question

BACKGROUND

Folic acid and folate (the anion form) represent the water-soluble form of Vitamin B9. Leaf vegetables (such as spinach and turnip greens), dried beans and peas, liver, sunflower seeds and certain other fruits and vegetables are rich sources of folate. Folate is necessary for the production and maintenance of new cells, especially during rapid cell division and growth. It plays an important role in DNA synthesis and repair, and is specifically important in preventing changes to DNA that may lead to cancer. Folate deficiency leads to the production of megaloblasts, large red blood cells that result in megaloblastic anemia. Folate derivatives, in the form of tetrahydrofolate compounds, are involved in the synthesis of dTMP and dUMP, and also in several single-carbon-transfer reactions. Low folate levels are associated with a number of illnesses, including heart disease and stroke; breast, pancreatic and colon cancer; rheumatoid arthritis; lupus; psoriasis; asthma; sarcoidoisis; primary biliary cirrhosis; and inflammatory bowel disease.

REFERENCES

- Spiegelstein, O., Lu, X., Le, X.C., Troen, A., Selhub, J., Melnyk, S., James, S.J. and Finnell, R.H. 2003. Effects of dietary folate intake and folate binding protein-1 (Folbp1) on urinary speciation of sodium arsenate in mice. Toxicol. Lett. 145: 167-174.
- 2. Gasche, C., Lomer, M.C., Cavill, I. and Weiss, G. 2004. Iron, anaemia, and inflammatory bowel diseases. Gut 53: 1190-1197.
- 3. Johnson, I.T. 2004. Micronutrients and cancer. Proc. Nutr. Soc. 63: 587-595.
- 4. Bollheimer, L.C., Buettner, R., Kullmann, A. and Kullmann, F. 2005. Folate and its preventive potential in colorectal carcinogenesis. How strong is the biological and epidemiological evidence? Crit. Rev. Oncol. Hematol. 55: 13-36.
- 5. Beagle, B., Yang, T.L., Hung, J., Cogger, E.A., Moriarty, D.J. and Caudill, M.A. 2005. The glycine N-methyltransferase (GNMT) 1289 C → T variant influences plasma total homocysteine concentrations in young women after restricting folate intake. J. Nutr. 135: 2780-2785.
- 6. Blom, H.J., Shaw, G.M., den Heijer, M. and Finnell, R.H. 2006. Neural tube defects and folate: case far from closed. Nat. Rev. Neurosci. 7: 724-731.
- 7. Mangoni, A.A. 2006. Folic acid, inflammation, and atherosclerosis: false hopes or the need for better trials? Clin. Chim. Acta 367: 11-19.
- Reynolds, E. 2006. Vitamin B12, folic acid, and the nervous system. Lancet Neurol. 5: 949-960.
- 9. Nagai, T., Tanaka, M., Tsuneyoshi, Y., Matsushita, K., Sunahara, N., Matsuda, T., Yoshida, H., Komiya, S., Onda, M. and Matsuyama, T. 2006. *In vitro* and *in vivo* efficacy of a recombinant immunotoxin against folate receptor β on the activation and proliferation of rheumatoid arthritis synovial cells. Arthritis Rheum. 54: 3126-3134.

SOURCE

Folic Acid (FA3) is a mouse monoclonal antibody raised against Folic Acid.

RESEARCH USE

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

PRODUCT

Each vial contains 100 $\mu g\ lgG_1$ in 1.0 ml of PBS with <0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Folic Acid (FA3) is recommended for detection of Folic Acid by solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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 for detailed protocols and support products.

Santa Cruz Biotechnology, Inc. 1.800.457.3801 831.457.3800 fax 831.457.3801 **Europe** +00800 4573 8000 49 6221 4503 0 **www.scbt.com**