Pacific Biomarkers
The Value of Expertise

Folate

Analyte: Folate

Specimen Type: Serum

Optimum Volume: 0.5 mL

Stability:

2-8 Degrees C	-20 Degrees C	-70 Degrees C
3 days	1 month	2 years

Reporting Units: nmoL/L

Method: Electrochemiluminescence

Biological or Clinical Significance:

Folate is necessary for normal growth and repair of animal tissues. Processes requiring folate include DNA synthesis and red blood cell production. Untreated deficiencies may lead to increases in homocysteine and in advanced deficiency, megaloblastic (macrocytic) anemia. A deficiency of either vitamin B12 or folate can cause both of these outcomes. It is advisable to determine the concentration of both vitamin B12 and folate in order to properly diagnose the etiology of hyperhomocysteinemia or macrocytic anemia. Nutritional folate deficiency can result from diets that lack adequate raw fruits, vegetables, or other foods rich in folic acid. Deficiencies are relatively common in chronic alcoholics, drug addicts, the elderly or persons of low socioeconomic status, for example. In addition, low serum folate during pregnancy has been associated with neural tube defects. Dietary deficiency and malabsorption are the major causes of folate deficiency in humans. Radio-assays were first reported for folate in 1973. The majority of these methods utilize 125I-folate radio-labeled tracers and natural folate-binding proteins (milk binding protein, folate binding protein). The various commercial assays differ in their free versus bound separation techniques and choice of specimen pretreatment. This assay is an automated immunoassay that employs a competitive test principle using natural folate binding protein (FBP) specific for folate

Principle of Test Method:

The Folate assay is an automated competitive binding immunoassay for the in vitro quantitative determination of folate in human serum.

References:

14.3 Rush D. Folate Supplements Prevent Recurrence of Neural Tube Defects, FDA Dietary Supplement Task Force. Nutrition Reviews 1992; 50(1):22-28.

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