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## Medical Encyclopedia: Folic acid - test

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### Alternative names

Folate - test

### Definition

The folic acid test measures the amount of folate in the blood.

### How the test is performed

Blood is drawn from a vein, usually from the inside of the elbow or the back of the hand. The puncture site is cleaned with antiseptic. An elastic band is placed around the upper arm to apply pressure and cause the vein to swell with blood.

A needle is inserted into the vein, and the blood is collected in an air-tight vial or a syringe. During the procedure, the band is removed to restore circulation. Once the blood has been collected, the needle is removed, and the puncture site is covered to stop any bleeding.

In infants or young children:

The area is cleansed with antiseptic and punctured with a sharp needle or a lancet. The blood may be collected in a pipette (small glass tube), on a slide, onto a test strip, or into a small container. A bandage may be applied to the puncture site if there is any bleeding.

### How to prepare for the test

Fast for 6 hours before the test. The health care provider should be notified if you are using any drugs that can affect test results, including folic acid supplements.

### How the test will feel

When the needle is inserted to draw blood, you may feel moderate pain, or only a prick or stinging sensation. Afterward, there may be some throbbing.

### Why the test is performed

This test is used to evaluate for folic acid deficiency. It can be performed on either whole blood or red blood cells, but measuring folate in red blood cells is more accurate.

Folic acid -- one of the B vitamins -- is necessary for synthesis of nucleotides, which are the building blocks of DNA. A deficiency of DNA synthesis can most easily be seen in rapidly-dividing cells, such as immature red blood cells. Red blood cells that are formed in the presence of insufficient folic acid have shortened life spans, are larger

than normal, and have reduced ability to carry oxygen.

### Normal Values

The normal range is 2.7 - 17.0 ng/ml (nanograms per milliliter)

### What abnormal results mean

Lower-than-normal levels may indicate:

- Inadequate diet
- Malabsorption syndrome (for example, sprue and celiac disease)
- Malnutrition

Additional conditions under which the test may be performed:

- Anemia of folate deficiency
- Megaloblastic anemia

### What the risks are

- Excessive bleeding
- Fainting or feeling light-headed
- Hematoma (blood accumulating under the skin)
- Infection (a slight risk any time the skin is broken)
- Multiple punctures to locate veins

### Special considerations

Pregnancy increases the need for folic acid.

Drugs that can decrease folate measurements include alcohol, aminosalicic acid, birth control pills, estrogens, tetracyclines, ampicillin, chloramphenicol, erythromycin, methotrexate, penicillin, aminopterin, phenobarbital, phenytoin, and antimalarials.

Veins and arteries vary in size from one patient to another and from one side of the body to the other. Obtaining a blood sample from some people may be more difficult than from others.

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