



METAMETRICS
LABORATORY

BASIC NUTRIENT TEST

Reveal micronutrient imbalances that put your health at risk.

Why You Need Basic Nutrient Testing

The Importance of Micronutrient Balance

Micronutrients are essential vitamins and minerals integral to growth, development, and good health. Each nutrient is responsible for specific physiological functions, which makes every nutrient unique and irreplaceable.

Factors such as diet, age, lifestyle, genetics, and medical conditions affect an individual's need for particular nutrients and the ability to absorb them as well.

The Impact of Basic Nutrient Testing

The Basic Nutrient Test enables balanced micronutrient intake through personalized nutritional management and safer vitamin-mineral supplementation. For instance, women who take calcium and vitamin D supplements for osteoporosis without prior nutrient testing end up with toxic levels of these nutrients.

- ✓ Measures the level of 13 vitamins, minerals, and antioxidants essential to health
- ✓ Reveals micronutrient deficiencies and toxicities that contribute to chronic diseases such as high blood pressure, diabetes, osteoporosis, and cancer
- ✓ Evaluates intracellular mineral levels (instead of just serum measurement) like magnesium, calcium, selenium, and zinc
- ✓ Provides clinically actionable information that enables clinicians to develop personalized dietary and supplementation protocol based on individual test results

One out of every three persons worldwide is affected by micronutrient deficiency.¹ Inadequacy of certain nutrients results in deficiencies that contribute to chronic ailments such as cardiovascular disease, osteoporosis, and cancer.²



BASIC NUTRIENT TEST

Micronutrients Tested:

Folate (vitamin B9) is crucial for proper brain function, and plays an important role in mental and emotional health. It aids in the production of DNA and RNA, and is especially important when cells and tissues are growing rapidly, such as in infancy, adolescence, and pregnancy. Folate also helps in muscle building, digestion, and normal nervous system function.

Cobalamin (vitamin B12) maintains the health of nerves, red blood cells, skin, hair, and nails. It also reduces levels of homocysteine that causes higher risks of cardiovascular disease. Cobalamin deficiency may result in memory loss, chronic fatigue, and depression.³

Vitamin D is a fat-soluble vitamin responsible for increasing intestinal absorption of calcium, magnesium, and phosphate. It supports bone development and healthy immune and nervous system function. It also helps regulate insulin to manage the symptoms of diabetes. A deficiency of this vitamin may cause osteomalacia.²

Vitamin K is essential to blood coagulation and bone health. It is used to reduce the risk of bleeding in liver disease, conditions where the body does not absorb enough of the vitamin, or if antibiotics are taken for a long time. High levels are associated with greater bone density, while low levels were found in those with osteoporosis or osteoarthritis. Increasing evidence shows that post-menopausal women with vitamin K deficiency are more likely to develop osteoporosis.

Magnesium is involved in more than 300 biochemical reactions in the body. It is essential to bone formation, healthy immune system, and maintenance of nerve and muscle function. Insulin resistance, osteoporosis, and cardiovascular disease can stem from low levels of this nutrient.⁴

Selenium is an essential trace mineral that is important for many bodily processes, including cognitive function, healthy immune system, and fertility in both men and women. It contributes to thyroid hormone metabolism and DNA synthesis, and it helps protect against oxidative damage and infection.⁵

Calcium is a mineral that enhances bone health, aids in blood clotting, and helps muscle contraction. Low calcium levels can lead to hypertension, osteoporosis, and a higher risk of kidney stones.⁶

Sodium is important to muscle and nerve function. It also helps sustain a regular blood pH level, which is an important indicator of health. Extra sodium causes the body to retain water, increasing blood volume and causing the heart difficulty to move blood and placing more pressure on the arteries. Too much sodium can lead to high blood pressure, as well as fluid buildup in people with congestive heart failure, cirrhosis or kidney disease.⁷

Potassium is an electrolyte that regulates acid-base and fluid balance. Low levels of potassium can result in high blood pressure and cardiovascular disease.⁸

This nutrient panel also tests for **zinc, iron ferritin, chromium, and manganese.**

1 Global Nutrition Report. World Health Organization (WHO). 2016.

2 Journal of the American Medical Association (AMA). June 19, 2002. Vol. 287. No. 23

3 Shilling RF. Vitamin B12 deficiency: underdiagnosed and overtreated? Hosp Prac 1996; 7; 47

4 Thompson Janice L, Manore Melinda M, and Vaughan Linda A. The Science of Nutrition. 2nd Ed. Benjamin Cummings. 2011.

5 Selenium: Health benefits, sources, and potential risks. <http://www.medicalnewstoday.com/articles/287842.php>

6 National Institute of Health (NIH), Office of Dietary Supplements. Dietary Supplement Fact Sheet: Calcium. [Gov/Factsheets/Calcium-Health-Professional/](http://ods.od.nih.gov/factsheets/Calcium-Health-Professional/)

7 The advantages and disadvantages of sodium in nutrition.

<http://healthyeating.sfgate.com/advantages-disadvantages-sodium-nutrition-5640.html>

8 He FJ, MacGregor GA. Beneficial effects of potassium on human health. *Physiol Plant*. 2008; 133(4): 725-735

TEST INFORMATION

Specimen : 20 ml. whole blood
Result TAT : 7 working days
Method : LC-MS/MS, ICP-MS, HPLC, Microassay

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