

Methylmalonic Acid (Blood)



Does this test have other names?

MMA

What is this test?

This test measures the amount of a substance called methylmalonic acid (MMA) in your blood.

MMA is typically made in tiny amounts when you digest protein. Your body makes large amounts of MMA if you have a drop in the amount of vitamin B-12. MMA is excreted through your kidneys.

Your body needs B-12 to make red blood cells and to help your central nervous system work as it should. Low levels of B-12 can cause anemia. This is when your body does not make enough red blood cells.

This test is used to diagnose a mild and early shortage of vitamin B-12. A high level of MMA can mean that you have a low level of B-12. Vitamin B-12 deficiency is the most common cause of MMA production.

Foods that can increase B-12 levels include red meats, shellfish, fish, dairy, and cereals fortified with the vitamin. If you are a strict vegetarian, you may be at higher risk for a B12 deficiency. If you are pregnant and are a vegetarian, you may want to take a B-12 supplement. This is especially important if you plan to exclusively breastfeed your baby. Otherwise, your child may also be prone to a B-12 deficiency.

Why do I need this test?

You may need this test if your healthcare provider thinks you have a vitamin B-12 deficiency. You may also need this test if you have symptoms of nerve damage (neuropathy) or loss of movement. This can include numbness and tingling in your hands and feet.

Other symptoms of B-12 deficiency include:

- Trouble walking
- Mood swings
- Depression
- Yellow skin (jaundice)
- Irritability
- Insomnia
- Forgetfulness
- Pain, swelling, and tenderness of the tongue
- Belly (abdominal) pain
- Diarrhea
- Numbness in your hands or feet
- Trouble thinking
- Fatigue

- Headache

You may also have this test if your healthcare provider suspects that you have methylmalonic acidemia. This is an uncommon metabolic disorder in which your body can't process certain fats and amino acids (the building blocks of proteins). The disease is usually diagnosed in babies and can be mild or life-threatening. A urine test called organic acids may also be done if the provider thinks that a child may have this condition.

What other tests might I have along with this test?

Your healthcare provider may also order a homocysteine blood test. If your homocysteine levels are high, your provider may also order a test to measure your folate (folic acid) concentrations. An evaluation of intrinsic factor and a complete blood count may also be done.

What do my test results mean?

Test results may vary depending on your age, gender, health history, and other things. Your test results may be different depending on the lab used. They may not mean you have a problem. Ask your healthcare provider what your test results mean for you.

If your MMA levels are abnormal, you may have a B-12 deficiency. MMA levels often go back to normal after treatment with B-12.

Abnormal MMA levels are common in pregnancy. Abnormal MMA levels may also be caused by kidney disease. This is usually because less MMA is sent into your urine, causing it to accumulate in your blood.

Babies may have abnormal levels of MMA because of a condition called methylmalonic acidemia.

How is this test done?

The test is done with a blood sample. A needle is used to draw blood from a vein in your arm or hand.

Does this test pose any risks?

Having a blood test with a needle carries some risks. These include bleeding, infection, bruising, and feeling lightheaded. When the needle pricks your arm or hand, you may feel a slight sting or pain. Afterward, the site may be sore.

What might affect my test results?

Other factors aren't likely to affect your results.

How do I get ready for this test?

You may need to not eat or drink anything but water for several hours before the test. Follow your healthcare provider's directions. Be sure your healthcare provider knows about all medicines, herbs, vitamins, and supplements you are taking. This includes medicines that don't need a prescription and any illegal drugs you may use.

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