

Creatine Kinase MB/Creatine Kinase Ratio



Does this test have other names?

Ratio of CK-MB to total CK, cardiac index

What is this test?

This test measures the amount of creatine kinase (CK), an enzyme, in your blood. Creatine kinase is also called creatine phosphokinase (CPK). It also measures a certain isoenzyme of CK called CK-MB. This is found mostly in the heart.

Your body makes 3 forms of CK, including CK-MB. CK is found in the heart, muscles, and other organs including the small intestine, brain, and uterus. If you have a heart attack, injured heart muscle cells release CK-MB into your blood.

Because many tissues contain CK, high levels of CK can be a sign of a variety of problems. Higher CK-MB may point more specifically to heart damage.

Each year millions of Americans visit the emergency room with chest pain, but only a fraction of those people are actually having a heart attack or another serious, sudden heart problem. This test helps your healthcare provider figure out whether you're having a heart attack.

Measuring the ratio of CK-MB to total CK can provide information about the cause of your symptoms.

Why do I need this test?

You may need this test if your healthcare provider suspects you are having a heart attack. Symptoms of a heart attack often include:

- Pain or discomfort in the chest, such as a squeezing sensation or feeling of fullness
- Pain in the neck, back, left arm, or jaw
- Shortness of breath
- Lightheadedness or dizziness
- Nausea or vomiting
- Sudden sweating
- Tiredness

What other tests might I have along with this test?

Your healthcare provider may also order a test to measure cardiac troponin, or CTn. This test is more commonly used than CK-MB because it more specifically shows heart damage. The cardiac troponin level is considered the best way to detect a heart attack because it is more sensitive and more specific than CK-MB.

Your provider may also order an electrocardiogram (ECG) to measure electrical activity in your heart and help diagnose a heart attack.

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.

Levels of CK-MB do not rise in your blood within the first 4 to 6 hours after a heart attack. You may need to have repeated tests to see if you've had a heart attack.

If you've had a heart attack, both CK-MB and the ratio of CK-MB to total CK will rise. The higher the ratio of CK-MB to CK, the more likely it is that you have a heart problem.

Higher levels of CK-MB may also be caused by muscle damage elsewhere in your body, by diseases that affect your muscles, and by trauma to your chest.

This test may not be helpful if you have both heart and other muscle damage at the same time.

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?

Timing is important. If you have the test too soon after a heart attack, your results may not be accurate.

Strenuous exercise and cocaine use can also affect your results.

How do I get ready for this test?

You don't need to prepare for this test. 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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