

D) Antimitochondrial Antibody Test (AMA)

What Is an Antimitochondrial Antibody Test?

The **mitochondria** are the energy factory cells. They are critical to the normal functioning of all cells.

Antimitochondrial antibodies (AMAs) are the autoimmune response that occurs when the body turns against its own cells, tissues, and organs. When this happens, the immune system attacks the body as though it were an infection. AMAs attack the mitochondria.

The AMA test looks for autoimmune disorders affecting the mitochondria. It is most often used to detect an autoimmune condition known as **primary biliary cirrhosis (PBC)**.

Why Is the AMA Test use?

AMA testing is primarily used to detect PBC. This autoimmune disease destroys the mitochondria in the small bile ducts of the liver. Damaged bile ducts affect the liver's ability to get rid of toxins. This can cause scarring, or cirrhosis of the liver.

Symptoms of PBC include:

- Fatigue
- Yellowing of the skin (jaundice)
- Pain in the upper right abdomen
- Swelling (edema) of the hands and feet
- Dry mouth and eyes
- Itchy skin

An AMA test is used to help confirm a clinical diagnosis of PBC. An abnormal AMA test alone is not enough to diagnose PBC. You may also order the following tests:

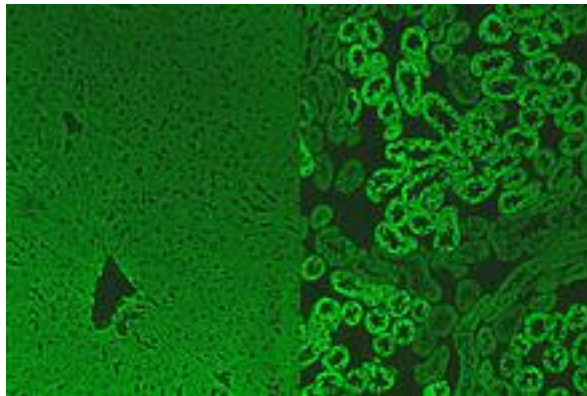
- Antinuclear antibodies (ANA)
- Immunoglobulin (IgM)
- Bilirubin
- Albumin
- C -reactive protein
- Smooth muscle antibodies (SMA)

E) Anti-LKM-1 (Liver Kidney Microsomal Type 1 Antibodies)

Why Get Tested?

To help diagnose autoimmune hepatitis and distinguish it from other causes of liver injury

Autoimmune hepatitis is an acute or chronic inflammation of the liver that can lead to liver cirrhosis and, in some cases, to liver failure. It is hepatitis that is not due to another identifiable cause, such as a viral infection, exposure to a drug or toxin, a hereditary disorder.



(The figure explain [Immunofluorescence](#) pattern of LKM1 antibodies on liver)

When is it ordered?

Depending on a person's signs and symptoms and the anti-LKM-1 test may be ordered along with other testing, such as an SMA and ANA test. These tests are usually ordered when a person has abnormal findings on routine liver tests.

Symptoms associated with autoimmune hepatitis may also include:

- An enlarged liver
- Joint aches
- Abdominal discomfort
- Nausea or vomiting
- Dark urine
- Loss of appetite
- Muscle pain (myalgia)
- Skin rashes
- Fluid buildup (edema)

Celiac Disease Antibody Tests

Celiac disease (gluten-sensitive enteropathy) is a digestive and autoimmune disorder that results in damage to the lining of the small intestine when foods with gluten are eaten. Gluten is a form of protein found in some grains. The damage to the intestine makes it hard for the body to absorb nutrients, especially fat, calcium, iron, and folate.

Celiac disease antibody tests are a group of assays developed to help diagnose and monitor the disease and a few other gluten-sensitive conditions. These tests detect autoantibodies in the blood that the body produces as part of the immune response.

When is it ordered?

Celiac disease tests are ordered when someone has signs and symptoms suggesting celiac disease.

Gastrointestinal signs and symptoms may include:

- Abdominal pain and distension
- Blood stool
- Chronic diarrhea or constipation
- Flatulence
- Greasy, foul-smelling stools
- Vomiting

Note:

Procedure of all the tests above is depended upon using ELISA or Fluorescent Immunoassay methods.