

(Excerpts from the website www.sfaf.org)

What Are HIV Antibody Tests?

As the body fights viruses, the immune system creates antibodies to that virus. HIV antibody tests do not measure or detect the virus itself but instead look for your body's reaction to the virus - **the presence of antibodies to HIV**. There are three commonly used antibody tests that are used for diagnosis: **ELISA, Western Blot, and IFA**.

ELISA

The ELISA (also sometimes called EIA) is almost always the first screening tool; it is inexpensive and very sensitive for detecting the presence of HIV antibodies. In most cases, a blood sample is tested, but other types of ELISAs that use saliva and urine have also been developed. The actual ELISA takes 3.5 to 4 hours, but most test sites send samples to outside labs, where they are tested in batches, so you may have to wait one to two weeks for results.

Beyond the "window period," ELISA tests are very rarely "false negative." This means if you have a negative test result, and you were tested at least six months after the last potential exposure, you are really HIV negative. An ELISA test may rarely be "false positive." False positive ELISA results can occur if someone is tested right after events that temporarily stimulate the immune system, such as viral infections or immunizations. They could also occur because of lab error, or because of the test's very high sensitivity, discussed below.

For these reasons, positive ELISA results must always be confirmed with a Western Blot or IFA (below), and at reputable test sites this is commonly done automatically -- meaning you don't have to have another blood sample drawn.

A relatively new test, called a detuned ELISA, which has been used in research settings, will soon become more widely available to other test sites. The detuned test, which is used only after HIV antibodies are confirmed by a Western Blot test, can determine if the HIV infection is recent (within the last six months), which may be useful for deciding upon possible early treatment options.

Western Blot (WB) assay

The WB is a confirmatory test: **it is only performed if the ELISA is positive**. The WB can be positive, negative, or indeterminate. Indeterminate tests are neither positive nor negative. An indeterminate result usually means that a person has just begun to seroconvert at the time of their test. In the rare cases in which this occurs, the person will need to be retested, usually about one month later. False positive results are extremely rare with the WB, so it confirms (proves) that HIV antibodies are present.

Indirect immunofluorescence assay (IFA)

The IFA can be used instead of the WB to confirm ELISA results. Like the WB, IFA tests for the presence of antibodies in a blood sample. The exact strategy is slightly different in that it uses a microscope. It can be faster than a WB, so the few labs that use it can get results to the patient more quickly.

Window Period

The **"window period" is the time it takes for a person who has been infected with HIV to react to the virus by creating HIV antibodies. This is called seroconversion.** During the window period, people infected with HIV have no antibodies in their blood that can be detected by an HIV test, even though the person may already have high levels of HIV in their blood, sexual fluids, or breast milk.

Here is what the CDC says about the window period:

"Antibodies generally appear within three months after infection with HIV, but may take up to six months in some persons."

This CDC definition of a three to six month window period has been commonly used for a number of years.

What does this mean for you?

The three month window period is normal for most of the population. Many people will have detectable antibodies in three or four weeks. Very, very rarely (i.e., only a few cases ever), a person could take six months to produce antibodies.

You may be anxious to be tested soon after an encounter which you perceive to be risky (for a discussion of what behaviors put you at risk for HIV and which ones do not, see the section on How HIV Is Spread). You want to know: can I be antibody tested without waiting three months? How accurate is the test after, say, six weeks?

Unfortunately, we simply don't know.

Think about this: if you got a negative test at six weeks, would you believe it? Would it make you less anxious? If so, then go for it. But to be certain, you will need to be tested again at three months. Some test centers may recommend testing again at six months, just to be extra sure.

Although HIV may not be detected by a test during the window period, HIV can be transmitted during that time. In fact, individuals are often most infectious during this time (shortly after they have been exposed to HIV).

Accuracy of Antibody Tests

The accuracy of a medical test is a combination of two factors: sensitivity and specificity. The ELISA is extremely sensitive (about 99.5%), which means it will detect very small quantities of HIV antibody. This high sensitivity reduces the odds of reporting a "false negative" when HIV antibodies are present. **Assuming you are being tested beyond the six month "window period" and have not engaged in activities that put you at risk for HIV, if the ELISA is "negative," there is virtually no chance you have HIV.**

The high sensitivity of the test creates a slightly lower specificity. This means the result could (infrequently) be "false positive." To compensate for this, confirmatory tests are automatically performed after a positive ELISA. The WB and IFA are highly specific for HIV antibodies, so they rule out false positive ELISAs nearly every time.

The CDC states that the combined accuracy of the ELISA plus either the WB or IFA is greater than 99%.

The CDC recommends retesting any positive (reactive) ELISA twice; if either retest is positive (reactive), then a confirmatory test is performed. Only when the confirmatory test is also reactive is the result reported as HIV positive. Again, reputable test sites automatically follow this procedure, so results reported to you as positive can be relied upon completely. It is also important to note that if you test positive through the use of a rapid HIV test (with results provided in 20 minutes or less), your result is still preliminary.

A confirmatory test must be performed to verify whether you are infected with HIV and these results will take several days.

What does this mean for you?

If you are beyond the window period and were reported HIV negative by an ELISA, and you are not subsequently at risk for HIV, you should consider yourself HIV negative. You may have a great deal of anxiety about the remote chance that you may be infected, yet test HIV negative. Although this is technically possible, and has in fact been documented in several people, the probability is so small that it stretches the imagination. Think about the tens of millions of HIV tests that have been administered, and only a handful of people with HIV have not had detectable antibodies.

If that tiny probability is still bothering you, think about whether there may be other issues you're facing. Are you feeling guilt over an experience that may have placed you at risk -- or one that you feel put you at risk, even though it did not? Or are there other sources of anxiety that cannot be alleviated by further HIV testing?

If you want to discuss these issues further -- for example, you want to find out if a certain activity put you at risk for getting HIV -- call an AIDS hotline. Call the CDC National AIDS Hotline toll free at **800/342-AIDS**.