# 3 Is the "AIDS Test" Accurate?

Many people are surprised to learn that there is no such thing as a test for AIDS. The tests popularly referred to as "AIDS tests" do not identify or diagnose AIDS and cannot detect HIV, the virus claimed to cause AIDS. The ELISA and Western Blot tests commonly used to diagnose HIV infection detect only interactions between proteins and antibodies thought to be specific for HIV—they do not detect HIV itself. And contrary to popular belief, newer "viral load" tests do not measure levels of actual virus in the blood.

All HIV antibody tests are highly inaccurate. One reason for the tests' tremendous inaccuracy is that a variety of viruses, bacteria and other **antigens** can cause the immune system to make antibodies that also react with "HIV proteins". When the antibodies produced in response to these other infections and antigens react with HIV proteins, a positive result is registered. Many antibodies found in normal, healthy, HIV-free people can cause a positive reading on HIV antibody tests.[23] Since the antibody production generated by a number of common viral infections can continue for years after the immune system has defeated a virus—and even for an entire lifetime—people never exposed to HIV can have consistent **false positive** reactions on HIV tests for years or for their entire lives.

The accuracy of an antibody test can be established only by verifying that positive results are found in people who actually have the virus. This standard for determining accuracy was not met in 1984 when the HIV antibody test was first created. Instead, to this day, positive ELISAs are verified by a second antibody test of unknown accuracy, the HIV Western Blot. Since the accuracy for HIV antibody tests has never been properly established, it is not possible to claim that a positive test indicates a current, active HIV infection or even to know what it may indicate.[24] In one study that investigated positive results confirmed by Western Blot, 80 people with two positive ELISAs that were "verified" by a positive Western Blot tested negative on their next Western Blot.[25]

Antibodies produced in response to simple infections like a cold or the flu can cause a positive reaction on an HIV antibody test. A flu shot and other immunizations can also create positive HIV ELISA and Western Blot results. Having or having had herpes or hepatitis may produce a positive test, as can vaccination for hepatitis B. Exposure to microbes such as those that cause tuberculosis and malaria commonly cause false positive results, as do the presence of tapeworms and other parasites. Conditions such as alcoholism or liver disease and blood that is altered through drug use may elicit the production of antibodies that react on HIV antibody tests. Pregnancy and prior pregnancy can also cause a positive response. The antibodies produced to act against

**Antigen:** A substance that can trigger an immune response, resulting in the production of antibodies as part of the body's defense system against infection and disease. Many antigens are foreign proteins (those not found naturally in the body); they include microorganisms, toxins, and tissues from another person used in organ transplantation. Antigen stands for ANTIbody GENerating.

**False Positive:** Indicates infection where none exists.

infection with mycobacterium and yeast, infections which are found in 90% of AIDS patients, cause false positive HIV test results.[26] In one study, 13% of Amazonian Indians who do not have AIDS and who have no contact with people outside their own tribe tested HIV positive.[26] In another report, 50% of blood samples from healthy dogs reacted positively on HIV antibody tests.[27]

Prior to the notion that HIV causes AIDS, viral antibodies were considered a normal, healthy response to infection and an indication of immunity. Antibodies alone were not used to diagnose disease or predict illness. Before HIV, only ELISA and Western Blot tests that had been shown to correspond with the finding of actual virus were used to diagnose viral infections. There is no credible scientific evidence to suggest that these rules should be disregarded to accommodate HIV.

In addition to being inaccurate, HIV antibody tests are not standardized. This means that there are no nationally or internationally accepted criteria for what constitutes a positive result. Standards also vary from lab to lab within the same country or state, and can even differ from day to day at the same lab.[28] As HIV test kit manufacturers acknowledge, "At present there is no recognized standard for establishing the presence or absence of antibodies to HIV-1 and HIV-2 in human blood."[29]

The following chart illustrates just some of the varying criteria for what is considered a positive HIV Western Blot, and shows how someone could actually switch from positive to negative simply by changing countries. The differing standards for positive HIV tests are not limited to the locations and agencies mentioned here—criteria vary from lab to lab and results are open to interpretation. An inconclusive test can become positive or negative based on an individual's sexual preference, health history, zip code or other survey data.

### Varying Criteria for a Positive HIV Western Blot[30]

| | | AFRICA | AUSTRALIA | UNITED KINGDOM | USA CDC 1 | USA CDC 2 | USA FDA | USA RED CROSS |
|---|---|---|---|---|---|---|---|---|
| ENV gene | p160<br>p120<br>p41 | ANY TWO | ONE OR MORE | ONE OR MORE | p120/ p160* AND p41 | p120/ p160* OR p41 | ONE OR MORE | ONE OR MORE |
| POL gene | p68<br>p53<br>p32 | OPTIONAL | ANY THREE | p31** | | | p32 | ANY ONE |
| GAG gene | p55<br>p40<br>p24 | | | p24 | | p24 | p24 | ANY ONE |

* The CDC regards p120 and p160 as a single unit—if antibodies to one show up, the others are automatically considered to be present

** Used instead of p32 in the United Kingdom

The various proteins used in HIV Western Blot tests are arranged into bands that are divided into three sections. These three sections are represented by the abbreviations ENV, POL and GAG. Proteins in the ENV section correspond to the outer membrane or "envelope" of a virus; POL refers to proteins common to all retroviruses which include polymerase and other enzymes; GAG stands for "group specific antigen" and includes proteins that form the inner core of a virus. The protein bands in each section are indicated by the letter "p" and are followed by a number which describes the molecular weight of that protein measured in daltons. For example, p160 is an ENV protein that weighs 160 daltons.

It is important to note that none of the proteins used in HIV antibody tests are particular to HIV, and none of the antigens said to be specific to HIV are found only in persons who test HIV positive. In fact, many people diagnosed HIV positive do not have these "HIV antigens" in their blood.

As mentioned previously, newer HIV "viral load" tests do not isolate or measure actual virus. The tests' manufacturers clearly state that viral load "is not intended to be used as a screening test for HIV or as a diagnostic test to confirm the presence of HIV infection."[31] In fact, viral load tests have not been approved by the FDA for diagnostic purposes and have not been verified by virus isolation. For more information on viral load tests, please see *What's Up With Viral Load?* on page 36. Of course, the most outstanding problem with any HIV test is that HIV has never been demonstrated to cause AIDS.

## Should You Bet Your Life on an HIV Test?

"The only way to distinguish between real reactions and cross-reactions is to use HIV isolation. All claims of HIV isolation are based on a set of phenomena detected in tissue culture, none of which are isolation and none of which are even specific for retroviruses...We don't know how many positive tests occur in the absence of HIV infection. There is no specificity of the HIV antibody tests for HIV infection."

*Bio/Technology Journal*, 11:696-707, 1993

"The HIV antibody tests do not detect a virus. They test for antibodies that react with an assortment of proteins experts claim are specific to HIV. The fact is that an antibody test, even if repeated and found positive a thousand times, does not prove the presence of viral infection."

Val Turner, MD, *Continuum Magazine*, Volume 3 No. 5, 1996

"HIV tests are notoriously unreliable in Africa. A 1994 study published in the *Journal of Infectious Diseases* concluded that HIV tests were useless in central Africa, where the microbes responsible for tuberculosis, malaria and leprosy were so prevalent that they registered over 70% false positive."

*Sacramento Bee*, October 30, 1994

" With public health officials and politicians thrashing out who should be tested for HIV, the accuracy of the test itself has been nearly ignored. A study last month by Congress' Office of Technology Assessment found that HIV tests can be very inaccurate indeed. For groups at very low risk—people who don't use IV drugs or have sex with gay or bisexual men—9 in 10 positive findings are called false positives, indicating infection where none exists."

*US News & World Report*, November 23, 1987

" People who receive gamma globulin shots for chicken pox, measles and hepatitis could test positive for HIV even if they've never been infected. The Food and Drug Administration says that a positive test could be caused by antibodies found in most of America's supply of gamma globulin. Gamma globulin is made from blood collected from thousands of donors and is routinely given to millions of people each year as temporary protection against many infectious diseases. Dr. Thomas Zuck of the FDA's Blood and Blood Products Division says the government didn't release the information because 'we thought it would do more harm than good.'"

*USA Today,* October 2, 1987

" Two weeks ago, a 3-year-old child in Winston Salem, North Carolina, was struck by a car and rushed to a nearby hospital. Because the child's skull had been broken and there was a blood spill, the hospital performed an HIV test. As the traumatized mother was sitting at her child's bedside, a doctor came in and told her the child was HIV-positive. Both parents are negative. The doctor told the mother that she needed to launch an investigation into her entire family and circle of friends because this child had been sexually abused. There was no other way, the doctor said, that the child could be positive. A few days later, the mother demanded a second test. It came back negative. The hospital held a press conference where a remarkable admission was made. In her effort to clear the hospital of any wrongdoing, a hospital spokesperson announced that 'these HIV tests are not reliable; a lot of factors can skew the tests, like fever or pregnancy. Everybody knows that.'"

Celia Farber, *Impression Magazine*, June 21, 1999

" A Vancouver woman is suing St. Paul's Hospital and several doctors because she was diagnosed as carrying the AIDS virus, when in fact she wasn't. In a BC Supreme Court writ, Lisa Lebed claims when she was admitted to the hospital in late 1995 to give birth to a daughter, a blood sample was taken without her consent. It revealed she was HIV positive, so she gave up the baby girl for adoption and decided to have a tubal ligation. A year and a half later, while undergoing AIDS treatment, she found out she was not HIV positive. The explanation she was given was a lab error. She says because of the negligence of the hospital, she's now sterile and has lost a daughter."

Woman Sues St. Paul's, CKNW Radio 98, June 10, 1999

## Factors Known to Cause Positive Results on HIV Antibody Tests[32]

Acute viral infections, DNA viral infections[13c,40c,43c,48c,53c,59c]

Administration of human immunoglobulin preparations pooled before 1985[10c]

Alcoholic hepatitis/alcoholic liver disease[10c,13c,32c,40c,43c,48c,49c,53c]

Alpha interferon therapy in hemodialysis patients[54c]

Antibodies with a high affinity for polystyrene (used in the test kits)[3c,40c,62c]

Anti-carbohydrate antibodies[13c,19c,52c]

Anti-collagen antibodies (found in gay men, haemophiliacs, Africans of both sexes and people with leprosy)[31c]

Anti-Hbc IgM[48c]

Anti-hepatitis A IgM (antibody)[48c]

Anti-lymphocyte antibodies[31c,56c]

Anti-microsomal antibodies[34c]

Anti-mitochondrial antibodies[13c,48c]

Anti-nuclear antibodies[13c,48c,53c]

Anti-parietal cell antibody[48c]

Anti-smooth muscle antibody[48c]

Autoimmune diseases (systemic lupus erythematosus, scleroderma, connective tissue disease, dermatomyositis)[10c,29c,40c,43c,44c,49c]

Blood transfusions[13c,36c,41c,43c,49c,63c]

Epstein-Barr virus[37c]

False positives on other tests, including RPR (rapid plasma reagent) test for syphilis[10c,17c,33c,48c,49c]

Flu[36c]

Flu vaccination[3c,11c,13c,20c,30c,43c]

Globulins produced during polyclonal gammopathies (in AIDS risk groups)[10c,13c,48c]

Hemolyzed serum (blood where hemoglobin is separated from the red cells)[49c]

Hematologic malignant disorders/lymphoma[9c,13c,43c,48c,53c]

Hemophilia[10c,49c]

Heat-treated specimens[24c,48c,49c,51c,57c]

Hemodialysis/renal failure[10c,16c,41c,49c,56c]

Hepatitis[54c]

Hepatitis B vaccination[21c,28c,40c,43c]

Herpes simplex I and II[11c,27c]

High levels of circulating immune complexes[6c,33c]

HLA antibodies (to Class I and II leukocyte antigens)[7c,10c,13c,43c,46c,48c,49c,53c,63c]

Hyperbilirubinemia[10c,13c]

Hypergammaglobulinemia (high levels of antibodies)[33c,40c]

Leprosy[2c,25c]

Lipemic serum (blood with high levels of fat or lipids)[49c]

Malaria[6c,12c]

Malignant neoplasms (cancers)[40c]

Multiple myeloma[10c,43c,53c]

Mycobacterium avium[25c]

Naturally-occurring antibodies[5c,19c]

Normal human ribonucleoproteins[13c,48c]

Organ transplantation[1c,36c]

Other retroviruses[8c,13c,14c,48c,55c]

Passive immunization: receipt of gamma globulin or immune globulin (as prophylaxis against infection which contains antibodies) [4c,13c,18c,22c,26c,42c,43c,60c]

Poorly-understood cross reactions in healthy individuals[10c]

Pregnancy in multiparous women[13c,36c,43c,53c,58c]

Primary biliary cirrhosis[13c,43c,48c,53c]

Primary sclerosing cholangitis[48c,53c]

Proteins on the filter paper[13c]

Q-fever with associated hepatitis[61c]

Recent viral infection or exposure to viral vaccines[11c]

Receptive anal sex[39c,64c]

Renal (kidney) failure[13c,23c,48c]

Renal transplantation[9c,13c,35c,48c,56c]

Rheumatoid arthritis[36c]

Serum-positive for rheumatoid factor, anti-nuclear antibody (both found in rheumatoid arthritis and other autoantibodies)[14c,53c,62c]

Stevens-Johnson syndrome[9c,13c,48c]

"Sticky" blood (in Africans)[34c,38c,40c]

Systemic lupus erythematosus[15c,23c]

Tetanus vaccination[40c]

Tuberculosis[25c]

T-cell leukocyte antigen antibodies[13c,48c]

Upper respiratory tract infection (cold or flu)[11c]

Visceral leishmaniasis[45c]