



Diagnostic Test for HIV

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Diagnostic tests for HIV

- Most serological tests based on detection of antibody to HIV in blood or body fluids and not the HIV virus itself. Takes about 3 months for body to make enough antibodies for detection by standard tests
- “HIV–positive” or “HIV+” or “HIV antibody (Ab) positive” or “seropositive for HIV” means one is infected with the HIV virus and capable of transmitting it to others
- P24 assay detects HIV antigen

- Testing can be confidential where you give your name when getting tested or anonymous where no name is given to the testing center

Types of HIV Antibody Tests

- Standard blood test

A) ELISA- Enzyme Linked Immunosorbent Assay

B) Western Blot (confirming the ELISA and more specific)

C) Oral mucosal transudate test

D) Urine HIV antibody test

E) Rapid HIV antibody tests

F) Home testing kit

(Ref: CDC-INFO)

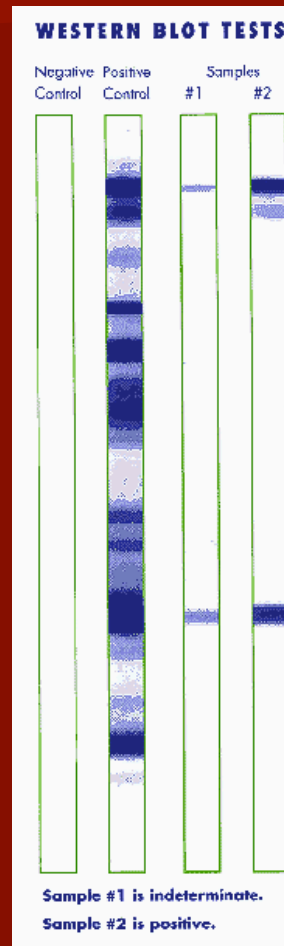
ELISA

- Initial screening for HIV Ab in blood
 - HIVAg-Ab reaction occurs, then positive
- 1) Well contains HIV Ag to which patient's serum is added
 - 2) If serum contains anti-HIV Ab, will bind to Ag
 - 3) Then a secondary Ab that recognizes the anti-HIV Ab and has an attached enzyme is added
 - 4) If positive, causes a color change in the presence of an indicator
- Western Blot to confirm as antigens from other sexually transmitted disease can give false positives

Western Blot

- Used to confirm and ELISA test that is positive
- Highly sensitive and specific
- The substrate is made by fractionating purified HIV-1 (Ag) by molecular weight using polyacrylamide gel electrophoresis into discrete bands that are then transferred by electroblotting to a membrane and is cut into strips. Patient's urine, saliva or serum placed on strip and the Ab will bind to HIV Ag and is visualized by an immunohistochemical method.

Picture of Western Blot



Need atleast three bands to confirm sample is positive. So sample no. 2 is positive

Oral mucosal transudate test (OMT)

- Instead of a blood test, oral fluid is used. Specially treated pad placed in a person's mouth and gently rubbed between lower cheek and gum. The pad collects an oral fluid called OMT which contains HIV antibodies is an HIV-infected person.

Urine HIV antibody test

- Painless and non-invasive
- Urine is taken and ELISA and Western Blot performed

Rapid HIV antibody tests

- Takes about 60 min.
- Blood from finger or oral fluid taken and placed in a developing solution and indicates in 20 min. if antibodies present in the solution
- Test however needs to be confirmed by another specific test which is the Western Blot

Home testing kit

- Individual blood samples collected at home and mailed to a lab. Test results by phone.
- Also serum home testing kit available, though only one approved by the FDA.