

AIDS Testing: A Demonstration/Problem

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The World Health Organization estimates that by the year 2000 a cumulative total of 40 million men, women, and children will have been infected by HIV (human immunodeficiency virus), the primary causative agent of AIDS (Acquired Immunodeficiency Syndrome) (Culliton, 1991). Medical and social problems associated with AIDS on a worldwide scale will be very much a matter of concern for the foreseeable future. To encourage students to think about the current state of our understanding and our public policy with respect to this disease, we have developed a short demonstration/problem for students that involves the western blot method for diagnosing exposure to HIV (this method is the most definitive test for HIV commonly used at this time). Using HIV western blots from our local hospital testing service, we present the students with three blots (in the form of a color xerox): a positive and a negative control and a third blot for them to interpret. With the support of accompanying background text on the method, the students can then determine whether the third blot result is positive, negative, or indeterminate.

We use this demonstration/problem in the context of a protein gel electrophoresis laboratory. In this laboratory there are short intervals during which the students wait for centrifuge runs to be completed. The demonstration/problem functions (1) to constructively fill some of that time, (2) to stimulate group discussion of AIDS and the ethics of AIDS testing, and (3) to connect the students' laboratory work (gel electrophoresis) with the application of biotechnology in the real world.

I would be glad to send a copy of the blots and supporting text on request. Below are references we have found useful as TA background for the discussion of AIDS in this laboratory.

- Culliton, B. J. 1991. AIDS against the rest of the world. *Nature*, 352:15.
Gallo, R. C., and L. Montagnier. 1988. AIDS in 1988. *Scientific American*, 259(4):41-48.
(Basic background with useful figures.)
Gunderson, M., D. J. Mayo, and F. S. Rhame. 1989. AIDS: Testing and privacy. University of Utah Press, Salt Lake City, Utah, 241 pages.