

## Who's got the retrovirus?

by Michael Helquist

In mid-April as local debate swirled around the bathhouse issue, the worst-kept "secret" of the discovery of the AIDS agent offered some hope and excitement for all those privy to the news. Initially, revelations of the discovery were guarded. One local researcher revealed that he had been warned not to talk to the media about the discovery, and all of his communications with his contact in Washington, D.C. were by telephone to prevent written information from falling into the wrong hands. Calls to the Center for Disease Control (CDC) in Atlanta and to the National Institutes for Health (NIH) in Washington obtained only denials about any imminent news about a new medical breakthrough.

However, the rumors of an anticipated announcement became so prevalent that they finally spilled over into the media on April 18th with reports on the local TV news, in the local daily papers, and with statements from various AIDS organizations. Some reports announced a virus discovered by researchers in Paris; others noted a CDC virus; and still others revealed an NIH virus. A tardy news conference by Secretary Margaret Heckler of the Department of Health and Human Services, intended to make everything official and final. It didn't. Instead there followed criticism of Americans' assuming credit that belonged to the French, of unrealistic optimism about the development of a screening test and a vaccine, and questions of the importance of the discovery itself.

What's behind the scientific jockeying for position? Are there two candidate viruses? Are they different names for the same retrovirus? What's a retrovirus, anyway? Does this "light at the end of the tunnel" prompt

more personal attention on the light or on the length of the tunnel?

### A Little History

The two prominent viruses, touted as the causative AIDS agents, belong to a family of "retroviruses" first described in 1980 by Dr. Robert Gallo, an internationally known researcher, and his associates at the National Cancer Institute (NCI) in Washington, D.C.

Retroviruses are so named because they reproduce "backwards" using an enzyme — "reverse transcriptase" — to infect a cell. This process is due to a peculiarity in the genetic information stored in the retrovirus. Retrovirus infection is known to cause leukemia lymphomas (cancers) and solid tumors in several species of animals; it is also known to lead to T-cell malignancies in man. T-cells are vital to the normal functioning of the human immune system.

Gallo and his associates at NCI isolated and identified in 1980 a specific group of retroviruses, the "Human T-cell Leukemia Virus" (HTLV), from cells derived from Black American patients with adult T-cell malignant diseases. HTLV has since been found to be endemic in areas of Japan, as well as in the southeastern United States, substantial areas of Africa, and parts of South America and the Caribbean Basin. Research has shown that 6% (and sometimes as high as 37%) of adults are symptom-free carriers of the virus.

In May of 1983 *Science* magazine published studies by Gallo and his colleagues that identified other variants, or "isolates," within the HTLV family. The same issue of *Science* contained a report of the discovery of yet another retrovirus, apparently related to the HTLV family, by French scientists working at the Institut Pasteur in Paris. The French named their virus Lymphadenopathy Associated Virus (LAV) because it was obtained from patients with lymphadenopathy (swollen lymph glands), a condition that frequently precedes an AIDS diagnosis.

Although Gallo continued his studies with the variants HTLV-1 and HTLV-2, neither of them yielded the conclusive evidence he needed. Gallo was reported at one time in the fall of 1983 to be considering dumping his focus on the HTLV family if new break-

throughs were not forthcoming. Early this Spring the French LAV candidate caught the attention of American researchers who thought it held the greater promise for being the AIDS causative agent. In March the French researchers agreed to collaborate with scientists at CDC in their studies of LAV. The CDC is separate from the National Institutes of Health (NIH) in the federal health bureaucracy. In fact, many medical researchers note that the CDC and the NIH only communicate to each other through medical journals. Dr. Gallo works for NIH in Washington. His work continued with HTLV, and he succeeded in isolating yet another variant, HTLV-3. The current (May 4th) issue of *Science* magazine contains studies about Gallo's new isolate which he considers the AIDS causative agent.

### Breakthrough Reports

News of a breakthrough in AIDS research became more prevalent in early April. *The New York Native*, a gay newspaper noted for its coverage of AIDS research, reported in its April 9th issue that Dr. James Mason, director of the CDC, met with the publisher and medical editor of the paper on March 28th. During that meeting Mason is reported to have said that "work in progress at the CDC on the French retrovirus, LAV, looked very exciting and within weeks he hoped to be able to make announcements that LAV had been associated with AIDS as a causative agent." Mason is further reported to have said that the CDC decided "to go after the gold" with LAV.

There followed two weeks of rumors about a breakthrough discovery. When contacted by this reporter on April 12th, the Public Affairs Officer at CDC, Mr. Donald Bereth, who was also at the meeting with the *Native*, said, "There is no upcoming announcement; we're still looking for the cause of AIDS. However, on the next day, April 13th, representatives of the weekly British science news-magazine, *The New Scientist*, confirmed that a report of Gallo's discovery of a new isolate, HTLV-3, would be announced in London as the cause of AIDS. *The New Scientist* was due to be out on April 19th, but other reports hit the media newswires on the 16th. The reports were similar to the one that appeared in the *San Francisco Chronicle* on April 17th. It contained a full discussion of the rumors surrounding the new "secret" discovery. The news report, sanctioned by Gallo, was released in London on the 19th.

The story got confused when on April 21st

Dr. Mason of the CDC announced in Washington that he believed the virus discovered in France, LAV, was the cause of AIDS. Mason said he was speaking out because of the urgency of the AIDS epidemic. Two days later Mason's boss, Margaret Heckler, Secretary of Health and Human Services, stated in her own news conference that American researchers had independently isolated the AIDS causative virus, HTLV-3, as well as a process to mass-produce it.

All the rumors, reports, and news conferences of the preceding three weeks, led a number of observers to conclude that political motivation within the health bureaucracy had gotten the upper hand over medical fact.

There very definitely remain some unknowns about the candidate retroviruses. They are all variants in the same family of retroviruses; they may even be identical isolates that have been given different names. Last winter at an international AIDS research conference held in Park City, Utah, Dr. Gallo was reported to have suggested to the French researchers that they rename their virus "HTLV-3," the name Gallo had already chosen for his discovery.

Several researchers question the significance of the recently announced studies. Dr. Donald Francis, the coordinator of laboratory work for the CDC AIDS Activity unit, offered his evaluation to this reporter. "One research paper alone — whether from Paris, the NIH, or the CDC — isn't going to make it. There's going to be a lot more discussion and further study."

Ten days after the first reports appeared in the media, the *New York Times*, in its lead editorial on April 26th, bluntly observed, "The commotion indicates a fierce — and premature — fight for credit between scientists and bureaucratic sponsors of research. Certainly no one deserves the Nobel Peace Prize." The editorial continued "what you are hearing is not yet a public benefit but a private competition — for fame, prizes, new research funds." The *Times* predicts that "the French will claim prime credit for finding the virus while the American team will get credit for doing the substantial extra work needed to develop diagnostic tests."

As for the real significance of the HTLV/LAV discoveries, the *Times* disagrees with Secretary Heckler's suggestion that the discoveries were "the triumph of science over a dread disease." In the *Times*' opinion the discovery "is only the nomination of a prime suspect."

In this context, the discovery of a "prime suspect" offers hope for an eventual diagnostic test, prevention, and the cure for AIDS without leading anyone to believe that the battle for research or prevention has been won or will be won very soon. If the end of this epidemic appears nearer than before, several researchers and physicians have voiced words of caution. Dr. Dan Williams, New York physician and AIDS specialist, warned, "Preventing AIDS is much more important than researching its etiology (cause)."

Bob Cecchi, a man with AIDS very active with AIDS efforts in New York City, reflected on national network news, "This is an exciting discovery for the researchers." The challenge remains the same as it has been for some time now: to recognize the seriousness of AIDS, to prevent its transmission based on current understanding, and to provide support and understanding for those already diagnosed.

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