

## Déjà Vu in AIDS Priority Fight

*An allegation that the U.S. government concealed evidence about the discovery of the AIDS virus has reopened an old scientific and legal controversy*

"INQUIRY HID FACTS on AIDS research," a recent headline in the *Chicago Tribune* proclaimed. Then the story began with the following allegation: "A secret government inquiry four years ago into the AIDS research of Dr. Robert C. Gallo uncovered evidence that he was not the discoverer of the first AIDS virus and that the virus from which he later developed a patented blood test for AIDS was probably the same one isolated nearly a year before at the Pasteur Institute in Paris."

Within days this dramatic pronouncement was picked up in Europe. "Frenchman says American scientist did not discover AIDS virus," a Reuters headline announced. An Associated Press story from Paris claimed "Revelations could undo French-U.S. agreement."

Perhaps all this seems like déjà vu. Six years ago, a dispute of international proportions about who discovered the AIDS virus broke out when the United States announced that Robert C. Gallo of the National Cancer Institute had found the cause of AIDS and developed a blood test to detect it. At issue then, and again now, was the role played by Luc Montagnier of the Pasteur Institute who also claimed credit for discovering the virus.

Originally, Gallo and Montagnier had been collaborators. Gallo sent various reagents to Pasteur that helped them to find a virus they called LAV. In turn, the French sent samples of their virus to Gallo. At first, neither group could get any putative AIDS virus to grow in long-term cell culture, a problem that was finally resolved by Gallo's colleague Mikulas Popovic.

When, in April 1984, former Secretary of Health and Human Services Margaret Heckler called a press conference to announce that Gallo had found the cause of AIDS, Gallo said it was quite possible that when careful comparisons were done, his virus, called IIIB, and Montagnier's LAV would turn out to be alike. But Montagnier reportedly felt deprived of credit and eventually called off collaborative efforts.

Months of private investigations and public recriminations were finally resolved in 1987 when the President of the United States and the Premier of France signed an agreement that officially declared Gallo and Montagnier to be co-discoverers of the AIDS virus and co-inventors of the blood test that is used to identify the virus. Each side would share royalties from the patent, but 80% of any earnings would go to a



**Old rivals.** A 1987 agreement gave Robert Gallo (left) and Luc Montagnier (right) equal credit and split the royalties.

newly created International AIDS Foundation that would be jointly governed by the Americans and the French. If the peace treaty is now coming unraveled by fresh allegations, big bucks and reputations could be at stake all over again.

The decision to settle rather than battle in court was driven by several elements. The French were confident they would prove that Montagnier was the first to discover the AIDS virus. The Americans were equally confident that they could prove Gallo's lab was the first to grow the virus in large quantities and the first to develop a blood test based on recognition of a protein on the outer envelope of IIIB. No one could guarantee who would win in court, but it was clear to state leaders and scientists in both countries that a legal fight would only retard AIDS research. Both governments wanted to settle.

The author of the recent *Tribune* piece, reporter John Crewdson, has been working

this territory for 2 years. In November he produced a 50,000-word opus that all but declared that the French should have won. "The evidence is compelling that [what happened in Robert Gallo's lab] was either an accident or a theft," the *Tribune* said.

To support this contention, the *Tribune* hinted that, contrary to what people thought, LAV was really the only virus Gallo had in his lab at the time crucial experiments were done. It is a point Gallo and his colleagues hotly contest, saying they can produce ample evidence of other isolates. Montagnier, who was close to what was happening in Gallo's lab then, told *Science* this week, "We don't dispute the fact that he had other viruses," perhaps laying that to rest. However, Montagnier said that he "does not exclude the possibility of reopening the agreement."

The *Tribune's* November article did not get much attention in the American press. But it did get the attention of congressman John Dingell (D-MI) and that, in turn, forced the NIH to look at the *Tribune's* allegations

even though NIH officials said they saw nothing new (*Science*, 23 February, p. 908). Then came the *Tribune's* revelation about a "hidden inquiry" back in 1985 that was never made known to the attorneys for the French. The *Tribune* refers to some 20 documents, only a few of which have been leaked.

A lot is riding on whether those documents contain anything new. In an effort to find out, *Science* interviewed Gallo and Montagnier, the attorneys who represented the United States and the Pasteur in the settlement that was reached in 1987, and others, including Peter J. Fischinger, author of one of the revealed memos.

Ira Millstein and Michael Epstein of the New York firm of Weil, Gotshal, and Manges are the Pasteur's "settlement" attorneys. James Swire of Townley and Updike, also a New York City law firm, was retained as a trial attorney should the dispute have gone to court.

Epstein and Swire each told *Science* that they were not aware of the Fischinger memo until the *Tribune* got a leaked copy. Each has now read the memos the *Tribune* obtained, as has *Science*.

The Fischinger memo includes reference to an allegation against Gallo by Malcolm Martin of the National Institute of Allergy and Infectious Diseases. "That Martin actually wrote a memo is news to me," Swire said. "I was not aware of that point." But, the essential content of Martin's allegation was no secret. Martin, working in collaboration with the French, analyzed various isolates of the AIDS virus, including LAV and IIIB. On the basis of restriction endonuclease data, he suggested that Gallo's IIIB was really Montagnier's LAV.

Asked "Is there anything in the *Tribune* article or the Fischinger memo that you didn't know?" Epstein replied, "No, nothing. As the Pasteur Institute views the articles, it does not see any new facts," he said, adding that "as of today (26 March)" he sees no reason to try to reopen the settlement agreement, which included a provision that neither side would subsequently take the dispute to court.

Still, Montagnier, who said he did not have copies of the pertinent leaked memos at the time he talked to *Science*, is clearly not satisfied with the way the whole dispute has come out. "All along, the issue has been the identity of the virus," he said. "He [Gallo] should recognize that it could be a contaminant. If he would just say it could be a contaminant, I would be ready to salute his courage."

Montagnier says that such an admission would "probably not reopen the agreement," but that the Pasteur might ask for "moral reparation." But, he hastened to add, "I don't speak for the Pasteur here."

Is the American virus, IIIB, really LAV?

That is the question that underlies all the emotion in this continuing melodrama. Certainly, because the two viruses are so alike—they differ by only 150 nucleotides—a number of scientists believe that LAV accidentally contaminated another viral isolate in Gallo's lab and subsequently reemerged as IIIB.

According to one leading retrovirologist who is not connected to either the American or French research teams, retroviral contamination is a fairly common event. "Retroviruses jump around from plate to plate, almost as if they had legs," he says, and because they do not lyse the cells, you can't tell that they are there."

Is it possible that is what happened in Gallo's lab. Gallo says, "Yes, of course it is possible." In recent interviews and in interviews going back to 1984, he has acknowledged that contamination could explain why

## Gallo's Potential Jurors

In the hope of precluding charges of conflict of interest, the National Institutes of Health has asked that its inquiry into the AIDS case be overseen by a jury of scientific peers, nominated by the National Academy of Sciences and the Institute of Medicine.

A slate of 11 names—ten men and one woman—has been sent to James Mason, the assistant secretary of health. Mason, in turn, is expected to appoint the 11 as official advisers to the NIH in the matter of Robert C. Gallo of the National Cancer Institute versus Luc Montagnier of the Pasteur Institute.

Yale University biochemist Frederic M. Richards will be the foreman. Richards says that as far as he understands it, his committee will be charged with reviewing first the process of the NIH inquiry and, subsequently, its content—"perhaps with some evaluation of its content along the way." As *Science* goes to press, however, the Richards committee has not been formally appointed nor given marching orders.

Assuming everything goes according to plan, the others who will be asked to serve are: Judith **Areen**, Georgetown University law school; immunologist Stanley **Falkow**, Stanford; pharmacologist Alfred **Gilman**, University of Texas Southwestern Medical Center, Dallas; chemist Harry **Gray**, CalTech; Arnold **Levine**, Princeton; Howard **Morgan**, who formerly headed an investigation for NIH in another case; Mary Jane **Osborn**, University of Connecticut, Farmington; Joseph **Sambrook**, also Dallas; John **Stobo**, Johns Hopkins; and Robert **Wagner**, University of Virginia.

■ B.J.C.

IIIB and LAV are so much alike. Clearly, LAV was in his lab.

However, as Fischinger and Gallo pointed out then, and have reiterated now, it is possible that IIIB and LAV are different isolates of the same strain of the AIDS virus. Referring back to his now public 1985 memos, Fischinger says, "It is important to recall what the state of thinking was then. We knew that IIIB and LAV were extremely close," he told *Science* this week. By then, Gallo had sequence data that showed the two diverged by only 150 nucleotides, whereas in other isolates the divergence was greater. Says Fischinger, "We thought the 150-nucleotide divergence could be taken to mean that the two viruses were actually different variants of the same strain. We felt then that the *difference* was significant." At the time, Fischinger told *Science* that he thought it "unlikely" that IIIB and LAV would turn out to be 100% alike. However, other scientists, notably Martin, interpreted the closeness as evidence of identity.

Scientifically, the issue is still open. A paper in this month's *PNAS*, for instance, reports data that "suggest previous studies may have overestimated the level of sequence heterogeneity. . . ."

Gallo took the position that the key to the AIDS blood test did not lie in the identity of the virus but in Popovic's skill at getting it to grow. Gallo's position is consistent with that of the NIH's lawyers who said that growing the virus was the key to the patent claim.

The attorneys for the French were prepared to argue that even if that were so, the

Pasteur could claim a stake in the patent because Gallo and Popovic had tried to grow LAV in permanent cell lines and had therefore "learned" something from the French even if the attempt had failed. "That one worried me a little," Fischinger recalls. But the French also could have "learned" from use of Gallo's reagents.

Although each side's lawyers took the stance that they would win if the issue went to court, clearly there were sufficient points on each side to bring the matter to a negotiated settlement. According to Epstein, it seems unlikely that the settlement will be reopened unless totally new information comes to light.

The Fischinger memos, and certain other documents, were withheld from the French by NIH on the grounds that include lawyer-client privilege. Now, the attorneys for the Pasteur have asked for copies—not under the Freedom of Information (FOI) Act, as before, Epstein says, "just informally." The attorneys for NIH have yet to reply.

One other issue that is uncertain as *Science* goes to press is whether the NIH would ask for anything in return. During the settlement negotiations, the French had hundreds of pages of documents, including Gallo and Popovic's lab notebooks, to review in assessing their case. NIH had to turn them over as part of the French's FOI request. But France has no corresponding sunshine law and attorneys for NIH did not have access to comparable laboratory data from the Pasteur. Will they ask for that now? No decision has been made.

■ BARBARA J. CULLITON