

NIH launches surprise Gallo investigation

- Existence of independent viruses accepted
- Missing data and misleading statements

London & Washington

IN A surprise announcement, the National Institutes of Health (NIH) last week said that it had decided to convert its inquiry into the conduct of National Cancer Institute researcher Robert Gallo into a "formal investigation", even though it had resolved or "shown to be without substance" several of the "publicized issues and allegations" concerning Gallo's role in the discovery of the AIDS virus.

According to a confidential letter sent by NIH acting director William Raub to Gallo, findings to date indicate that there is "substantial reason to believe that scientific misconduct may have occurred in some instances" during the fiercely competitive hunt for the AIDS virus in 1983 and 1984.

But the specifics of the coming investigation, given in the confidential letter to Gallo, appear to indicate that any "misconduct" involves issues of misleading wording and missing data, rather than the broad issue that Gallo 'stole' the virus from competing researcher Luc Montagnier of the Pasteur Institute in Paris.

Vanishing motive

According to Gallo, the issue has now "been conclusively taken care of" because the inquiry accepts that his laboratory had isolates of AIDS virus from sources other than the Pasteur Institute at the time the virus was being identified as the cause of AIDS. Raub's statement says that "the inquiry team has concluded that Dr Gallo had a substantial number of HIV detections and isolations from several different sources at the critical time . . .". With viruses from other sources growing in his laboratory, Gallo claims that he would have no reason to steal the French virus, known as LAV.

Gallo is, however, willing to accept that the extreme similarity of LAV and the virus he isolated — named HTLV-IIIIB — could indicate that LAV entered his own culture through accidental contamination. But viral contamination is a common problem and not, says Gallo, "a question of ethics".

The NIH investigation will attempt to resolve the issue of where Gallo's virus came from. According to Raub's prepared statement, the investigation is to "include testing of a number of biological samples in an effort to determine the origins of HTLV-IIIIB, the virus that Dr Gallo and his colleagues used to develop the [AIDS] blood test." Gallo says that the testing

process will attempt to determine whether any of the 10 viruses known to have been independently isolated in his laboratory at the time could have provided the source of HTLV IIIIB. The investigation will also include Gallo's chief virologist, Mikulas Popovic, who had been responsible for growing viruses during the critical 1983–84 period.

Gallo's lawyer, Joseph Onek, says that the fact that NIH officials are addressing the issue at all proves that they consider it an open question. "When you're saying that you're looking for the source of HTLV-IIIIB that means you are not necessarily accepting contamination", but are considering the possibility of independent isolations, he says.

According to Gallo, it may be difficult for NIH to come up with a final judgement on the origin of his virus. Although only 10 separate viruses were known to have been combined in the viral "pool" maintained by Popovic from which HTLV-IIIIB was derived, some 78 other viral isolates were known to be in the laboratory at the time — and contamination from them is as likely as from LAV, says Gallo. Also, two of the original 10 isolates that went into the pool are no longer in existence, so their similarity to HTLV-IIIIB/LAV cannot be checked.

The issue of missing data to be raised in the formal investigation focuses on a paper by Popovic and Gallo published in May 1984. The paper was the first of a series of four key reports published by Gallo's laboratory in a single issue of *Science*; taken together, they served to establish HTLV-IIIIB as the cause of AIDS.

John Crewdson, the investigative reporter whose 16-page article in the *Chicago Tribune* newspaper stimulated the NIH inquiry, alleges that there are important discrepancies between the information published in the paper and Popovic's laboratory notes. In particular, he maintains that a table describing the properties of 5 viral isolates, growing in Gallo's laboratory before publication is misleading.

The questions about the paper bear strongly on the precise status of various viral isolates that were being kept in Gallo's laboratory at the time, and in particular on whether Popovic grew LAV in continuous rather than transient cell cultures. As it happens, it was Crewdson's attempts to resolve questions of this type that led him to argue that HTLV-IIIIB was

derived from LAV rather than an independent isolate.

Once again though, a final answer may be impossible to obtain, largely because many records, especially those kept by Popovic, no longer exist. "The real problem is that Popovic never kept a notebook, period," says Gallo. (Popovic was in his native Czechoslovakia last week and could not be reached.) Given the increasingly rigid standards for laboratory records being set as a result of other notorious misconduct cases, "the missing data could be a problem" in the investigation, says Gallo. "We are in new times."

In his statement, Raub announced that the NIH Office of Scientific Integrity which had handled the inquiry, would also undertake the formal investigation with a yet-unnamed panel of "expert scientific advisors" and the continued oversight and guidance of an 11-person panel nominated by the National Academy of Science (NAS).

Missing data

This summer, the NAS panel wrote to Raub, saying that they had found that "some data appears to be missing from the data books . . . [and] there is a possibility of selection and/or misrepresentation of data." They requested that the inquiry be terminated and a full investigation begun at that time. But Raub declined, explaining that "redesignation now would be premature" given that the "inquiry is in an especially significant phase". But what, exactly, was learned between that time and last week remains unclear.

Gallo says the announcement caught him by surprise both by its timing and its conclusion. "I expected this to be finished long ago. I think the major questions of anybody taking anything is over." One of the key allegations raised by Crewdson was that Gallo attempted to take full credit for the discovery of the AIDS virus even after he was familiar with Montagnier's work. Gallo acknowledges that investigators may still conclude that his papers show "exaggeration in the interest of petty gain", but that is an interpretation he believes is due to sloppy paper-writing in a tense period. "It was an emergency time. We weren't worried about dotting the 'i's and crossing the 't's" he says.

Representative John Dingell, chairman of the Energy and Commerce investigations subcommittee that asked NIH to undertake the inquiry, said in a statement that "we intend to follow [NIH's] investigation closely, and will also give them an opportunity to explain to the subcommittee why they have chosen not to pursue all of the allegations" that were most thoroughly aired in Crewdson's article last year.

**Christopher Anderson,
David Concar & Alun Anderson**