

NIH Says Paper Contained Bogus Data

In a harshly worded draft report, the National Institutes of Health concludes that crucial data underpinning a controversial 1986 scientific paper are fraudulent. The data appear in the lab notebook of immunologist Thereza Imanishi-Kari, formerly at MIT and now at Tufts University School of Medicine in Boston.

Imanishi-Kari, along with Nobel laureate David Baltimore and four others, reported their study in the April 25, 1986 CELL. For the most part, the new NIH report does not challenge the molecular data contributed by Baltimore's lab at the Whitehead Institute for Biomedical Research in Cambridge, Mass. However, it does question his strident defense of Imanishi-Kari in the face of mounting evidence that her serological data posed "serious problems."

Baltimore, now president of Rockefeller University in New York City, acknowledged last week that the March 14 draft report raises serious questions about the veracity of Imanishi-Kari's data. "I am today asking the other authors to join with me in requesting that the journal retract the paper until such time as the questions are resolved," Baltimore said in a prepared statement. "It is up to Dr. Imanishi-Kari to resolve [those questions]."

Imanishi-Kari's attorney declined to comment on the NIH report.

The scientific drama began in May 1986 when Margot O'Toole, a postdoctoral scientist working for Imanishi-Kari, stumbled across some raw data used in the CELL paper. O'Toole became convinced the data did not support the paper's conclusion.

In the CELL article, the authors described inserting a foreign gene into mouse immune cells and finding that those cells produced antibodies encoded by the mouse's own gene but carrying the telltale chemical signature of the inserted gene (SN: 3/31/90, p.200). The study appeared to provide the first convincing confirmation of a controversial theory of immune-system regulation. O'Toole disputed that finding, and other scientists eventually voiced their own skepticism.

The NIH draft report notes that no other research team has replicated the paper's central finding. It concludes that forensic and statistical evidence "demonstrate compellingly" that certain key data used to support the paper's central conclusion are "fraudulent."

In an earlier inquiry culminating in a February 1989 report, a panel of three NIH-appointed scientists relied heavily on these data — which detail the so-called "Table 2 subcloning experiments" — in

determining that the authors did not commit "fraud, misconduct, manipulation of data, or serious conceptual error." The new draft report stems from a second NIH investigation, conducted with help from the three previous panelists and two additional panelists.

The contested subcloning data consist of gamma-ray counter tapes — paper strips printed with numbers generated by a machine that measures radiation — and a row of handwritten numbers. Both the tapes and the penned-in data appear on pages dated June 20 through June 22 in Imanishi-Kari's lab notebook. Although the pages bear no year date, Imanishi-Kari has stated that she conducted those experiments in June 1985.

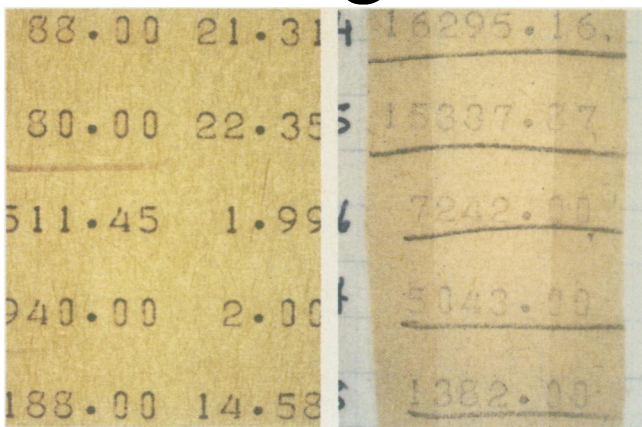
In its second inquiry, NIH subjected the handwritten data to a statistical analysis and concluded that it seemed impossible the data came from the experiments Imanishi-Kari described. "The behavior of the data is consistent with their having been generated by a conscious or unconscious selection process that avoids some numbers and favors others," the draft report states.

NIH also considered a forensic analysis in which the Secret Service studied more than 60 notebooks obtained from researchers who shared the same gamma-ray counters used by Imanishi-Kari's lab. The analysis revealed that the tapes for the subcloning experiments contained a greenish pigment not found in tapes produced by any other researcher using those counters in June 1985. The Secret Service then studied the color, ink and type font, and found that Imanishi-Kari's subcloning tapes matched tapes produced in 1981 and 1982.

Additional forensic evidence detailed in the NIH draft report suggests a bogus origin for other key data in Imanishi-Kari's notebook. Imanishi-Kari offered some of those data as proof of the paper's validity during the first NIH inquiry.

"The results of the investigation indicate that the actions of Dr. Thereza Imanishi-Kari constitute serious scientific misconduct," writes Suzanne W. Hadley of NIH's office of scientific integrity in a March 14 letter sent to the CELL authors along with the draft report.

Imanishi-Kari "repeatedly presented



Gamma-ray tape (left) produced by an MIT researcher in June 1985. Imanishi-Kari's tape (right) instead matches tapes from 1981 and 1982, the Secret Service says.

false and misleading information to NIH, the office of scientific integrity and the expert scientific panels," the report states.

If the draft's conclusions remain intact through the final approval process, NIH may decide to recommend permanently barring Imanishi-Kari from receiving federal funds. Rep. John Dingell (D-Mich.) has already referred the case to the Justice Department for a possible criminal investigation (SN: 5/19/90, p.310).

While Imanishi-Kari received the heaviest blow in the draft report, NIH and Congress may now turn their attention to her coauthors. Dingell plans to hold congressional hearings this spring on the coauthors' actions, and NIH began another probe late last year, prompted by O'Toole's charge of a coverup.

The March 14 report does not address the issue of a coverup, but it does call attention to Baltimore's "deeply troubling" views regarding the NIH probe.

Two years ago, at NIH's request, Baltimore and his coauthors agreed to publish the Table 2 subcloning data in the May 19, 1989 CELL. Then, on April 30, 1990, Baltimore told the NIH investigators: "In my mind, you can make up anything that you want in your notebooks, but you can't call it fraud if it wasn't published. Now you managed to trick us into publishing — sort of tricked Thereza into publishing — a few numbers, and now you're going to go back and see if you can produce those as fraud."

As for O'Toole, who lost her job after questioning the 1986 paper, the draft report calls her actions "heroic" and asserts that "she deserves the approbation and gratitude of the scientific community for her courage and her dedication to the belief that truth in science matters."

— K.A. Fackelmann