NATIONAL INSTITUTES OF HEALTH

# Varmus Grilled Over Breach of Embryo Research Ban

Like a brainy kid getting a lesson from the neighborhood enforcers, Harold Varmus, director of the National Institutes of Health (NIH), endured 3 hours as the lone witness before a House investigative panel last week. He was grilled about an NIH-funded researcher, Mark Hughes, accused last year of violating a federal ban on embryo research. The 19 June inquiry before the oversight and investigations subcommittee—the panel once chaired by the fearsome John Dingell (D–MI)—also served as a reprimand of NIH's top brass, seated behind Varmus in the audience, who were faulted by legislators for lax management. The subcommittee chair, Representative Joe Barton (R–TX), called it a "friendly hearing," but at times the questioning was anything but amiable.

Barton and other panel members, including Representative Ron Klink (D–PA), a sharp interrogator, concluded that Hughes, a molecular geneticist, had violated the ban on embryo research from 1995 to 1996. Hughes had searched for disease-causing mutations in DNA from embryos created by in vitro fertilization (IVF) to determine if they should be implanted in the mother's uterus. Barton said in an opening comment that he was concerned that Hughes had "conducted this prohibited [embryo] research openly on the NIH campus." Barton implied that the NIH chiefs had looked the other way, allowing Hughes's research to go on "with a wink and a nod"—until it became a burning issue. Barton said, "It appears some at NIH believe they are above the law. They are wrong."

Varmus confirmed that Hughes had violated the embryo research ban and other rules designed to protect human subjects. But "there was no wink and a nod." Varmus maintained that he and other NIH leaders had been unaware of Hughes's alleged misconduct because Hughes was careful to hide it. "When Dr. Hughes's surreptitious pursuit of prohibited research was discovered," Varmus said, "the NIH moved swiftly and decisively to terminate its research relationship with him and to ensure that no other similar violations were occurring." But in an awkward moment, Varmus disclosed that he had not even learned details of the Hughes scandal until it surfaced in the newspapers in January 1997—3 months after officials of the National Human Genome Research Institute (NHGRI) had severed all ties with Hughes because of his apparent misdeeds. "It was unfortunate," Varmus said: "My people assumed that someone else had [told me]" about the controversy, but no one had.

Hughes did not testify. But his lawyer, Scott Gant of Crowell & Moring in Washington, D.C., issued a statement in which Hughes claims, "I never intended to violate the ban on embryo research." In interviews with *Science*, Hughes has insisted that NIH chiefs did not make it clear that federal rules forbade him to use NIH resources to practice his specialty—preimplantation genetic diagnosis (PGD) of DNA taken from a single cell of a human embryo. "The NIH leadership may believe that they expressly told me in person that my PGD research was barred," says Hughes, "but that is not my recollection. ..." He adds, "I was never given any written statements or policies indicating that I could no longer do my PGD work. I believe there was simply a miscommunication. ..."

PHOTOS BY RICK KOZAK

**"Friendly" fire.** House investigators pepper NIH chief Varmus with questions as NIH staffers look on.

Hughes's charge of poor communication at NIH was supported by evidence at the 19 June hearing, but not his claim that he didn't know the rules. As Varmus noted, embryo research—particularly the IVF studies Hughes was involved in—had been widely debated. Since 1980, it had been off limits for NIH researchers. Congress cleared the way for funding of embryo research in 1993, but before approving any projects, Varmus, as NIH's new director, sought advice from a panel of experts on what should be allowed. Hughes was a member of the advisory group.

When the panel issued recommendations in late 1994 calling for limited use of embryos in research (*Science*, 9 December 1994, p. 1634), President Clinton stepped in with a new prohibition: He ruled that federal funding could not be used to create embryos for research. Then in 1995, the Republican Congress ruled that no funds could be used for "research in which a human embryo or embryos are destroyed, discarded, or knowingly subjected to risk of injury or death greater than that allowed under" other laws. NIH interpreted this to mean it could not fund any research on human embryos.

Varmus met Hughes—who had been recruited to the NIH campus in Bethesda, Maryland, in 1994 while the policies were in flux—in the NIH director's office on 12 June 1995 to clarify the rules. Hughes recalls the session as being packed with top officials. Varmus and his staff say that Hughes was told explicitly that he could not use NIH resources for DNA analysis of single cells taken from embryos. Hughes claims that this was not made clear. He says he continued to believe that, while research on embryos was off limits, analysis of DNA from single embryo cells was permitted. Unfortunately for NIH, the meeting produced no written memo to Hughes or NIH staff on the rules.

Hughes continued to analyze DNA—taken from single cells extracted from embryos in IVF clinics—in a lab he had set up at Suburban Hospital near NIH and, in at least one case, on the NIH campus. By chance, the test at NIH went wrong: Hughes had determined that DNA from an embryo did not carry a mutation that causes cystic fibrosis, but when the embryo was implanted and brought to term, Hughes confirms, the child tested positive for the disease. Complaints about research procedures conveyed to NIH by Hughes's postdocs triggered an internal inquiry by NHGRI staff in August 1996. The inquiry found that Hughes had violated the embryo research ban, given NIH fellows unapproved tasks, shipped NIH equipment on loan to an unapproved site, and failed to obtain proper ethics reviews for research protocols. NIH severed ties with Hughes on 21 October 1996.

After conceding that NIH had been slow to ask the Department of Health and Human Services inspector general to look into this case—an investigation that is still under way—Varmus pledged to do a better job of enforcing research limitations in the future. Barton approved, saying, "We can be much more unfriendly" if NIH doesn't show signs of enforcing the rules more strictly.

**–Eliot Marshall**