



STEM CELLS

## Collaborators Split Over Ethics Allegations

Allegations of ethical lapses have broken up a high-profile collaboration in human cloning and embryonic stem (ES) cell research and have put others on hold. Gerald Schatten, a stem cell researcher at Pittsburgh University School of Medicine in Pennsylvania, announced on 12 November that he would no longer work with Woo-Suk Hwang, leader of the Seoul National University team that was the first to report deriving human ES cells from cloned embryos (*Science*, 12 March 2004, p. 1669). Schatten had collaborated with Hwang since early 2004, and he was listed as a senior author on a second *Science* paper, published online 19 May 2005, that reported the first derivations of human ES cells carrying the genome of patients suffering from disease. He was also slated to play a leading role in the newly formed World Stem Cell Hub that the two researchers announced in October (*Science*, 21 October, p. 419). Schatten's statement came just days after another Hwang collaborator was investigated in connection with illegal payments to egg donors.

Schatten accuses Hwang of misleading him about the source of oocytes for the 2004 *Science* paper. (The team inserted a nucleus from a skin or other cell into an oocyte from which the DNA had been removed.) Schatten, who was not an author of the 2004 paper, did not detail his charges, but questions had been raised earlier about the source of the oocytes. In the first *Science* paper, the researchers said that their single cell line was the result of 242 tries with oocytes donated by 16 women. Shortly after the paper was published, *Nature* reported allegations that two junior members of the lab had donated oocytes for the work. Such a donation, although not illegal, would raise ethical flags because lab members might feel pressure from senior members or might think they could benefit, for example by being named co-author. Hwang and others involved in the research denied the allegations, saying that no lab members had donated oocytes to the project and that

none of the donors had been paid.

Schatten said in a 12 November statement that he had believed Hwang's explanation, but he now has doubts. "Regrettably, yesterday information came to my attention suggesting that misrepresentations might have occurred relating to those oocyte donations," he said.

The flap apparently grew out of a criminal investigation involving Hwang's collaborator Sung-II Roh, a fertility specialist at MizMedi Hospital in Seoul, who helped collect many of the oocytes Hwang's team used in the 2005



**Happier times.** Gerald Schatten (right) has ended his collaboration with Woo-Suk Hwang, accusing Hwang of misleading him about oocyte donors.

*Science* paper. On 8 November, South Korean media reported that police were investigating whether Roh was involved in illegal payments for oocytes that were fertilized and implanted into infertile women. South Korea's new bioethics law, which went into effect in January, prohibits any payment for donated oocytes. On 10 November, Schatten wrote to editors at *Science* assuring them that no donors had been paid for eggs used in either paper. Two days later, he announced that he was ending the collaboration because of a "breach of trust."

Donald Kennedy, editor-in-chief of *Science*, issued a statement saying that the journal is "taking the allegations very seriously." Editors "exercised unusually careful diligence" before

accepting both papers from Hwang's group, he says, and will take appropriate action if the allegations are substantiated.

In an e-mail, Hwang declined to comment on Schatten's allegations other than to say he is investigating the matter and will announce his conclusions as soon as possible. Moon-il Park, chair of the institutional review board at Hanyang University Hospital, where the donor eggs were collected for the 2004 paper, confirmed in an e-mail that he stands by previous statements to *Science*, saying that no one from Hwang's team was among the 16 donors (*Science*, 14 May 2004, p. 945). The bioethics law was not in effect then, so any payment, although ethically questionable, would have been legal.

In his statement, Schatten says he also found mistakes in a table from the paper published in May but that the mistake does not change the paper's conclusions.

Hans Schöler of the Max Planck Institute for Molecular Medicine in Münster, Germany, who has visited Hwang's lab and had been discussing a possible collaboration, says his interactions with Hwang have given him no reason to doubt Hwang's honesty. But he adds, "If the accusations turn out to be correct, ... they will affect the whole field." For example, Schöler says, any whiff of impropriety will damage ongoing efforts to convince German officials that scientists should be allowed to collaborate with Hwang. "One argument will be that if Hwang was dishonest with a collaborator, how dishonest will he be toward the public?" he says.

Insoo Hyun, a bioethicist at Case Western Reserve University in Cleveland, Ohio, says Schatten's allegations shocked him. Hyun spent several months with the Seoul group this summer studying the ethical standards they currently use. Although he did not look specifically into the collection of oocytes for the 2004 paper, he says he was impressed that the group's current guidelines go beyond those of many U.S. institutions. He has also advised Hwang on bioethics issues surrounding the World Stem Cell Hub project. He says his colleagues in South Korea are dismayed as well and are trying to find out the details of Schatten's concerns.

—GRETCHEN VOGEL

With reporting by Dennis Normile in Tokyo.

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