

BIOTECHNOLOGY

Researcher, Two Universities Sued Over Validity of Prostate Cancer Test

A Johns Hopkins University (JHU) researcher whose reports of a potential new blood test for diagnosing prostate cancer generated excitement—but also skepticism—is now being sued by his industry sponsor for scientific fraud. The company, Onconome Inc., says it poured millions of dollars over 5 years into the laboratory of Robert Getzenberg and alleges that he presented the company with misleading data. The lawsuits say that the biomarker test, which Getzenberg claimed could distinguish between cancerous and normal tissue, was “essentially as reliable as flipping a coin.” Onconome in Redmond, Washington, is suing Getzenberg, JHU, and the University of Pittsburgh (Pitt), his previous institution, for unspecified damages.

Legal experts say it is not unusual for a company-academic partnership to end up in court, but rarely has such a lawsuit involved allegations of scientific fraud. Citing ongoing litigation, both Pitt and JHU declined to comment on the suits. Getzenberg’s attorney also declined to comment beyond a statement from JHU that “Dr. Getzenberg continues to be a faculty member in good standing and his research is continuing.”

In the cancer research community, meanwhile, news reports of the suit filed against Pitt in federal court on 2 September—and a similar state court suit originally filed against Pitt and JHU last February—have cast another shadow on the field of cancer biomarker research, which some say has a long history of hype but few successes.

The research at issue began when Getzenberg was a graduate student in the lab of JHU cancer biologist Donald Coffey. In the early 1990s, Coffey’s team reported that a certain protein from the nuclear matrix of prostate tumor cells is present in prostate cancer tissue but not in normal prostate tissue.

According to the Pitt complaint, in 2001 while at Pitt, Getzenberg told Onconome’s potential investors that nuclear proteins from prostate tumor cells could be detected in blood and offered an alternative to the prostate specific antigen test, which has well-known limitations. Onconome was founded in 2001 to develop antibody-based tests that detect one such protein, which Getzenberg discovered and called Early Prostate Cancer Antigen (EPCA). The company “depended entirely” on Getzenberg to

conduct its scientific research through research agreements with Pitt and later JHU, the suit says.

In more than 20 updates to Onconome’s board, the Pitt suit says, Getzenberg reported results for EPCA and biomarkers for other cancers that he described as “amazing”: sensitivities and specificities approaching 100%, which means that the tests identified nearly all cancerous samples and rarely resulted in false positives. Two top medical journals



Disputed claims. A company alleges that Robert Getzenberg misrepresented his lab’s data on cancer biomarkers.

rejected a paper by Getzenberg on a second biomarker called EPCA-2, the suit says. However, he published a paper on EPCA-2 in the April 2007 issue of *Urology*. It drew widespread media coverage, thanks to a press release from JHU, where Getzenberg had moved in 2005 to take over for Coffey as research director of the James Buchanan Brady Urological Institute.

When Onconome hired its own scientists to develop and market the EPCA tests, they were unable to replicate Getzenberg’s experiments. The Pitt suit says that when Onconome compared lab records that were

“only recently obtained,” it found that many statements from Getzenberg were “false.” The suit alleges that he exaggerated statistical associations, “cherry-picked the data” to report favorable results, that his technician broke the blind on samples, and that he falsely claimed to have determined the DNA sequence coding for EPCA. In the end, the suit claims, EPCA markers “were and are imaginary.”

The lawsuit filed in federal court in Pittsburgh and a similar amended complaint filed in circuit court in Baltimore City in July against JHU and Getzenberg include claims of fraud, breach of contract, and “failure to supervise.” Onconome, which says its losses exceed \$13 million, asks for damages to be determined at trial and attorney’s fees. In a motion to dismiss filed in April, JHU claims that Getzenberg’s research activities “were in conformity with the ... state of knowledge in the scientific field.”

Research integrity expert C. K. Gunsalus of the University of Illinois, Urbana-Champaign, wonders whether the universities are conducting a scientific misconduct investigation of Getzenberg, who also had federal funding for his biomarker studies. JHU declined to comment; Pitt said it is not investigating, noting that Getzenberg has been gone for several years.

Several cancer researchers informed *Science* that they regarded EPCA and other biomarkers from Getzenberg as promising but in need of more testing. Arul Chinnaiyan of the University of Michigan, Ann Arbor, says the sensitivities reported were “stunningly high,” but he notes that that can happen in small, preliminary studies. Others have been more dubious. In a 2007 critique published in *Clinical Biochemistry*, University of Toronto biochemist Eleftherios Diamandis questioned whether nuclear proteins from tumors would be present in blood in quantities that could be detected with Getzenberg’s assay.

The case is another black eye for cancer biomarker research. Last year, federal regulators told a company that had begun marketing an ovarian cancer test developed at Yale University to hold off because the test had not yet been properly validated. A few years earlier, doubts were raised about another test for ovarian cancer based on protein signatures. “For decades, the field has been littered with the bodies of groups that have made dramatic claims that didn’t pan out,” says epidemiologist David Ransohoff of the University of North Carolina, Chapel Hill, who has called for more rigorous studies before going to market.

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