



**Liz Howard**

Trade secret theft and economic espionage laws apply to biopharmaceutical researchers. Learn what your company needs to do to retain protection under the Economic Espionage Act and what employees need to know to protect themselves from criminal charges.

**Liz Howard** is an intellectual property partner at Orrick, Herrington, & Sutcliffe, LLP, 1000 Marsh Road, Menlo Park, CA 94015, 650.614.7316, fax 650.614.7400, ehoward@orrick.com, www.orrick.com.

# Criminal Penalties for Theft of Biological Materials

Over the course of a career, a typical scientist will work in many different laboratories (both academic and industrial) and in different capacities (graduate student, research assistant, or principal investigator, for example). When a scientist leaves one laboratory to begin work at another, issues often arise as to what materials he or she may transfer to the new laboratory.

A typical research scientist in biology generates many biological samples. The samples may include DNA (such as plasmids or other vectors), cultural cell lines, monoclonal antibodies, libraries (cDNA libraries, for instance), and cloned genes. In academic science, many researchers take biological samples with them when moving to a new laboratory, often with the approval of the principal investigator. That is not surprising given the goal of openness in academics, where, if possible, biological samples should generally be sent to all who ask for them, even to “competitive” laboratories.

In industrial or commercial laboratory settings, however, taking any biological samples to a different entity without the express permission of the owner raises vastly greater concern. If the biological material can be characterized as a “trade secret,” criminal penalties and fines can be imposed on the scientist or the new laboratory, in addition to civil remedies the owner may have. This article discusses a pending criminal prosecution for alleged trade secret theft and then explores criminal penalties for “trade secret theft” and “economic espionage” under the Economic Espionage Act (EEA) of 1996(1).

## Legal Findings in the Case

An alleged theft from a laboratory in Ohio of biological materials related to Alzheimer’s research has been reported in the news. In May 2001, Takashi Okamoto and Hiroaki Serizawa were charged with violating the EEA. Okamoto was employed

as a research scientist at the Cleveland Institute in Ohio. He conducted basic research on Alzheimer’s for the clinic. Before leaving the Cleveland Institute, Okamoto is reported to have accepted a position with Japan’s state-run Institute of Physical and Chemical Research to continue researching Alzheimer’s disease. According to indictments, he took research materials from the Cleveland Institute, including DNA and cell samples, and transferred them to his new laboratory in Japan.

Okamoto allegedly collected both cell and DNA samples from his research at the Cleveland Institute. Although the charges against him are in dispute, the government indictments state that Okamoto gave the samples to Serizawa, a former colleague and professor at the University of Kansas. He allegedly told Serizawa to keep the samples for him until he called for them. Also, it is alleged that Okamoto and Serizawa prepared decoy vials filled with water to give to the Cleveland Institute should it attempt to retrieve the samples.

Okamoto left the United States to begin his new position in Japan. Serizawa was then arrested by FBI agents who executed a search warrant on his laboratory. Both have been charged with violating the EEA. Okamoto is still in Japan, and U.S. prosecutors are seeking his extradition. The Japanese Institute of Physical and Chemical Research issued a report stating that it did receive cell and DNA samples that were from the Cleveland Institute, but it denied that Okamoto had acted under its direction. This case highlights the possible criminal penalties for taking biological samples.

## EEA Legislation

The EEA was passed in October 1996 amid growing concerns about international and domestic corporate espionage. Heffernon and Swerlwood estimated in 1996 that about \$24 billion in corporate intellectual property is stolen each year (2). Passage of the EEA was also triggered by a perception that state and

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Here is a partial list of popular patent law and trade secret articles that have appeared in previous issues. Copies of these and other *BioPharm* articles can be ordered from fulfill@superfill.com.

H.M. Eisenberg, "Patent Infringement," 14(9), September 2001, pp. 60–61,72. *A patent holder may enforce that patent, but infringement determination is complex.*

H.M. Eisenberg, "Inventorship vs. Ownership," 13(7), July 2000, p. 68–70. *Inventors and owners are not the same, so inventorship needs to be clearly defined.*

H.M. Eisenberg, "Inventorship," 13(3), March 2000, p. 56–57. *Incorrectly naming the inventor may result in an invalid patent.*

C.A. Amalfe and K.R. Heslin, "Restrictive Covenants: Protecting Confidential and Proprietary Information," 13(2), February 2000, p. 52–55. *Protect proprietary*

*information with a clear restrictive covenant that doesn't limit an employee's ability to seek another job in the field.*

H.M. Eisenberg, "Patent Filing Deadlines and Bars to Patentability," 13(2), February 2000, p. 56–57. *Prevent your invention from falling into the public domain, or you may lose your patent.*

K.M. Parker and E.S. Pennington, "Protecting Your Company's Trade Secrets," 12(10), October 1999, pp. 50–52. *Ensure that confidential information is not misappropriated by having proper protective measures in place.*

H.M. Eisenberg, "Types of Intellectual Property," 12(4), April 1999, 38–39,43. *Copyrights, trademarks, patents, and trade secrets are the four types of intellectual property.*

federal schemes were inadequate to stem the mounting problem of trade secret theft.

Before the EEA, the government sought to prosecute trade secret theft under the National Stolen Property Act (NSPA) (3). But the NSPA was drafted before

computers, biotechnology, or copy machines existed, and a growing body of case law held that it could not cover intellectual property theft. State laws were also inadequate. Although many states had laws on the books concerning trade theft, few

resources were devoted in those states to prosecute corporate espionage. Civil action under state law is expensive and is frequently hampered by people who are "judgment-proof" or beyond the jurisdiction of the state courts.

**Economic espionage.** The EEA created two federal crimes: economic espionage and theft of trade secrets (4). Under the EEA, economic espionage consists of stealing, copying, or receiving a trade secret with the intent of benefiting a foreign government or entity. The EEA also makes it a crime to attempt or conspire to commit espionage, but the requirement is only that the defendant *intended* to benefit a foreign government: The type of benefit intended (such as theft for idealistic reasons rather than pecuniary motives) is irrelevant. Penalties for economic espionage include fines of up to half a million dollars and imprisonment up to 15 years.

**Trade secret theft** under the EEA does not require an intent to benefit a foreign government. However Congress did not criminalize all actions that might be considered trade secret theft in a civil law court. Trade secret theft requires three significant elements of proof. A defendant must have intended to convert the trade secret for economic benefit of someone other than the owner (which includes theft for the defendant's own benefit). So a defendant must have a pecuniary goal on behalf of someone. In civil law that requirement is not needed.

Another requirement for trade secret theft is that the defendant intended to injure the owner of the trade secret. It is, however, sufficient that the defendant knew his or her actions would injure the owner. Again, this requirement is absent from civil trade secret liability and from economic espionage.

The third requirement for prosecuting trade secret theft under the EEA is that the secret be related to or included in a product that is either produced for or used in interstate or foreign commerce. This is probably the most significant restriction affecting biotechnology.

Many biotechnology companies have no products yet. That would seem to exclude the results from their R&D from protection from trade secret theft. Economic espionage has no such restriction that the theft involve an existing product.

The EEA defines *trade secret* broadly to include all forms and types of scientific or technical information. If the owner of the trade secret makes reasonable efforts to keep the information secret, and the information is not generally known or readily ascertainable by the public, it meets the EEA's definition. Some people contend that this definition is too broad. Many state law provisions require that the trade secret remain generally unknown or ascertainable to *competitors*. Competitors obviously have greater knowledge and capability on a particular subject than the general public has, and that restricts many state definitions of a trade secret.

Researchers using biological samples that could be considered a trade secret under the EEA should be cautious in forwarding such samples to new employers — particularly if the new laboratory is run by a foreign government.

#### **References**

- (1) The Economic Espionage Act. *U.S. Code*, Section 90, Title 18, 1996.
- (2) R.J. Heffernon and D.T. Swerlwood, *Asis Special Report: Trends in Intellectual Property Loss* (American Society for Industrial Security, Alexandria, VA, 1996), pp. 4, 15.
- (3) National Stolen Property Act. *U.S. Code*, Section 2314, Title 18, 1940.
- (4) The Economic Espionage Act. *U.S. Code*, Section 1831: "Economic Espionage," and Section 1832: "Theft of Trade Secrets," Title 18, 1996. **BP**