



# FOCUS: DNA

**D**NA is the acronym for “deoxyribonucleic acid,” the so-called “building blocks” of life that contain the genetic instructions used in the development and functioning of living organisms.

DNA sampling to identify criminal suspects began in the 1980s. Its use broadened in the 1990s, largely in the area of sex crimes. Today, 6.3 million profiles are stored in the FBI’s national “CODIS” DNA databank.

Expanded DNA collection poses many ques-

tions. While DNA appears to be a highly effective and efficient forensic tool, much of its allure is built on myth rather than reality.

Tania Simoncelli, national science advisor to the ACLU, describes some of the myths, and the underlying realities.

Geoff Brumbaugh



Tania Simoncelli, science advisor at the National ACLU.

## DNA MYTHS AND REALITIES

**Myth: DNA is just like fingerprints.**

**Reality:** Fingerprints are two-dimensional images of the skin of our fingertips. DNA, on the other hand, represents the building blocks of what makes us individual human beings. As the DNA collection net widens, an increasing amount of highly personal information becomes available to the government.



**Myth: DNA testing is foolproof.**

**Reality:** DNA “matches” are not positive ID — they are a determination of statistical probability that your DNA is sufficiently similar to a sample collected by police or retained in a databank. Additionally, there can be considerable variation in the nature and quality of DNA samples. Samples may be incomplete or degraded. One sample can get mixed with another. There can be mishandling or incorrect analysis of samples.



**Myth: The ACLU is opposed to the use of DNA by law enforcement.**

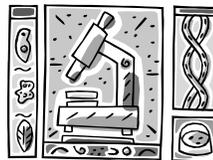
**Reality:** The ACLU is not opposed to collecting DNA — as long as the person agrees to the sampling or there’s a warrant. We don’t agree with mandatory sampling, or with indefinite retention of DNA. Once the DNA is used for the purpose justifying its collection, it should be destroyed.

**Myth: I’m innocent. Who cares who has my DNA?**

**Reality:** Once your DNA is entered into a large database (like the FBI’s “CODIS” database), you become an automatic suspect for any crime committed in the future. The suspicion extends beyond you to family members and other relatives with similar DNA; they are identified in a process called a “familial search.”

**Myth: Strong protections are in place to guard against misuse of DNA.**

**Reality:** Twenty-four states explicitly allow DNA to be used for a variety of non-forensic purposes. Alabama allows access to its database for medical research. Vermont’s database is restricted to police use — for now. “Function creep” is always a danger when information of any sort is collected and stored.



**Myth: The bigger the DNA database, the better.**

**Reality:** The utility of DNA databases is determined by the number of samples collected from crime scenes — not the number of people in the database. And since the vast number of crimes are property crimes, DNA collected there is problematic. Was the cigarette butt by the busted ATM left by the thief or by an earlier, innocent bank customer withdrawing cash from his account? Even in England, with the

### Court Decisions

U.S. courts have said convicted felons have a lesser expectation of privacy and their consent isn’t needed for DNA samples. Vermont is among 45 states that collect DNA from felons.

A challenge to the **Vermont law** was rejected by the state’s Supreme Court in 2008 in a 3-2 decision. The state has a special need to collect the information, the majority said; no “probable cause” is needed.

In late 2008, the **European Court of Human Rights** ruled that storing DNA from people with no criminal record violates the European Union’s Human Rights Convention.

The case arose from complaints about England’s collection and retention of DNA of persons arrested but not convicted of crimes.

world's largest (on a per capita basis) database, law enforcement admits that adding more and more people hasn't helped solve more crimes. In fact, as the English database has grown, the number of crimes solved through DNA evidence has declined.

**Myth: U.S. policies for DNA databanks are consistent with policies of other countries.**

**Reality:** The U.S. (and England) are outside norms, in terms of DNA collection and retention policies. Most countries limit sampling to serious offenders; none, other than the U.S. and England, allow mandatory collection of DNA before someone is convicted. At least two countries — Italy and Switzerland — require destruction of samples.

**Myth: DNA dragnets are highly effective in solving crimes.**

**Reality:** DNA dragnets — where large numbers of people are tested to prove their innocence — have been an abysmal failure. Of the 19 dragnets known to date, only one solved a crime -- and this dragnet was limited to a small, suspected population (employees of a nursing home where there had been an assault). Sometimes people who "willingly" provide DNA samples have difficulty having their samples returned — meaning innocent people can end up in DNA databanks and be considered a suspect in future crimes.

**Myth: The U.S. Constitution doesn't protect us against DNA collection.**

**Reality:** Courts have ruled that DNA collections are a search, and a warrant (or the person's consent to the search) is needed. But courts have said criminal offenders have a lower expectation of privacy, and therefore their DNA can be collected against their con-

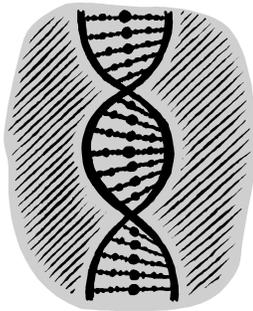
sent and kept on file (like fingerprints). And protections against surreptitious searches are unclear. In a 2007 case in Washington, that state's supreme court ruled that people give up their expectations of privacy when they lick an envelope, even if sent under false conditions. A man had been tricked by police into returning a form (detectives said they were from a law firm and wanted to know the man's interest in joining a class action lawsuit); DNA was collected from the saliva on the envelope, and used against the man.

**Myth: DNA collection protects us from wrongful convictions.**

**Reality:** It might, as has been shown by the Innocence Project. But DNA collection can also work the other way — DNA can lead to a wrongful conviction. In one well-known case in Las Vegas, DNA samples were inadvertently switched, and an innocent man was imprisoned for a year for rape — despite the fact that 11 witnesses placed him in another state at the time. This is why in England no one can be convicted on DNA evidence alone; there must be corroborating evidence for a conviction.

**Myth: When the president is away from the White House and drinks from a glass, a Secret Service agent is there to take the glass and destroy it, to prevent collection of the president's DNA.**

**Reality:** This may seem like a myth, but it's actually true — at least according to the British newspaper, *The Sunday Mirror*. No one is quite sure exactly what use could be made of the president's DNA, but it's considered private enough that the Secret Service doesn't want anyone to get a sample. So agents gather up drinking glasses and coffee cups.



**Further Reading**

*Genetics for Dummies*, by Tara Rodden Robinson.

Genetics from A to Z.

*DNA Evidence*, by Don Nardo.

DNA profiling and how it works.

*DNA Databases*, edited by Lauri R. Harding.

Anthology with various viewpoints.

*DNA: a prosecutor's practice handbook*, US Dept. of Justice, [www.dna.gov/training/prosecutors-notebook/](http://www.dna.gov/training/prosecutors-notebook/).

Continuing education course for prosecutors.

*The FBI DNA Laboratory: a review of protocol and practice vulnerabilities*, US Dept. of Justice, [www.usdoj.gov/oig/special/0405/final.pdf](http://www.usdoj.gov/oig/special/0405/final.pdf).

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