3Qs: Supreme Court rules human genes can't be patented

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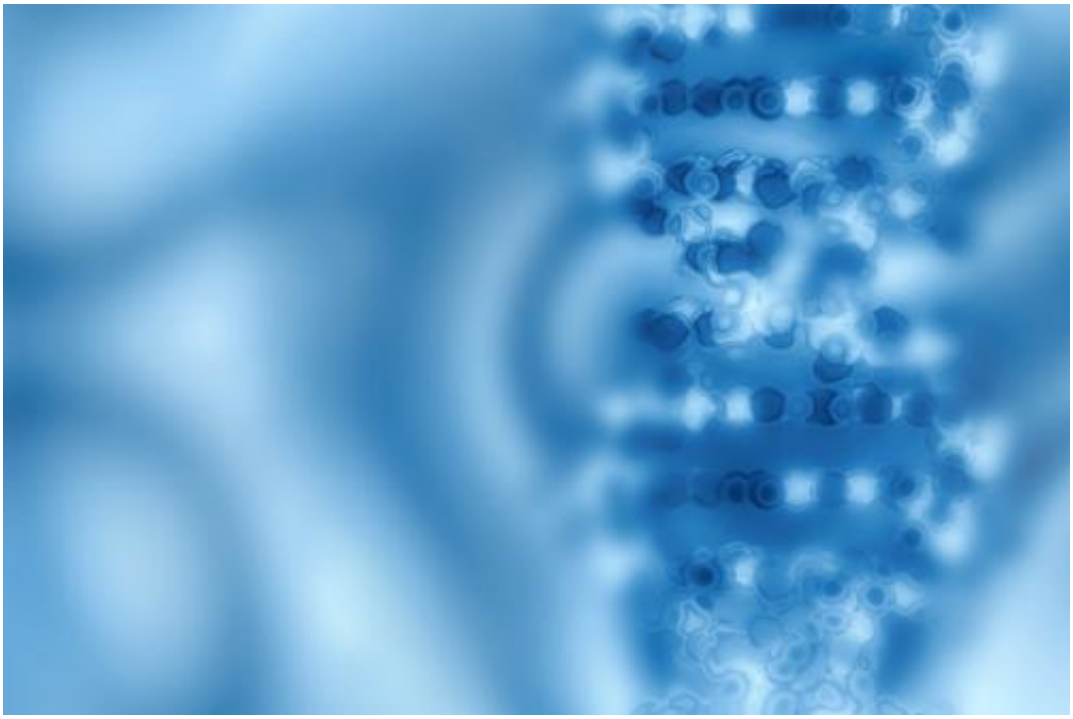

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The U.S. Supreme Court ruled in a unanimous decision Thursday that naturally occurring human genes can't be patented. The case centered on Myriad Genetics Inc.'s patents on popular breast and ovarian cancer tests. These tests were also recently thrust into the global spotlight when actress Angelina Jolie revealed she underwent a double mastectomy after such a test found her at higher risk for developing breast cancer. In the

case, Myriad argued that the DNA it isolated for its cancer tests were patentable, but the court ruled otherwise. The court did, however, rule that synthetically created genetic material, called "complementary" DNA or "cDNA," can be patented. We asked Michael Bennett, an associate professor in the School of Law who studies patent law and whose research interests lie at the nexus of law and emerging technologies, to examine the impact of the ruling.

What was your reaction to the ruling?

The ruling did not surprise me; it is pretty straightforward. The basic question before the court was whether a naturally occurring product, what we sometimes refer to as a "manufacture of nature," is patentable subject matter. What we're really talking about here is information that is created by "nature" and then discovered by researchers. U.S. patent law allows inventors and discoverers of new and useful compositions of matter to seek patent protection. But an exception exists for a product of nature. So the ruling found that genetic information encoded in DNA strands cannot be patented simply because it has been isolated or discovered, as such information falls into that exceptional category.

What impact will this ruling have on researchers, patients, and the law?

For researchers, it's reasonable to imagine that we'll see more effort in biotechnology and genomics labs to find genetic information related to any number of maladies that grow out of genetic mutations. There's a fair amount of work being done already, but this ruling removes a serious barrier to its growth.

Patients—especially those wanting to reap the benefits of diagnostic exams like those based on Myriad's patents—should expect to see more

providers offering similar, and maybe more effective, diagnostic services enter the marketplace. If market theory holds, we should also see the costs of these exams come down. And from a legal perspective, we'll certainly be updating our intellectual property and patent law syllabi. We've been talking about "purifications" of naturally created products as patentable subject matter, but in the wake of this ruling that line of cases is probably on shaky ground.

While Myriad can no longer hold a patent on isolated parts of naturally occurring human genes, the ruling made it clear that companies can still patent novel mechanisms for manipulating genes. How could this ruling be viewed positively and negatively from an innovation policy perspective?

This ruling gets down to a fundamental question for innovation policy. For those who believe that higher rates of innovation and largely unfettered technological development contribute to society in a strictly positive fashion, this ruling is a good thing. We've effectively seen a barrier to research knocked over today. However, those who don't think that continuous innovation predominantly improves society will likely see a downside—namely the likely creation of yet more scientific knowledge and even more complex technological devices and systems, all of which are so arcane and expensive to create, maintain, and use that their societal benefits are at best ambiguous.

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