

## CANCER RESEARCH

Transatlantic War Over *BRCA1* Patent

**PARIS**—It was not the usual press release hyping a scientific discovery. Last week, when a French-U.S. team reported a newly identified mutation in *BRCA1*, a human gene linked to elevated risk for breast and ovarian cancer, the Institut Curie announced the result with a broadside against Myriad Genetics, a Salt Lake City, Utah-based biotech firm. Myriad holds at least 17 patents worldwide on the use of *BRCA1* and a related gene, *BRCA2*, and has developed an automated test for mutations in these genes. But because the test doesn't pick up defects like the newly identified mutation, Curie claimed, it represents "a potential danger" to French cancer patients.

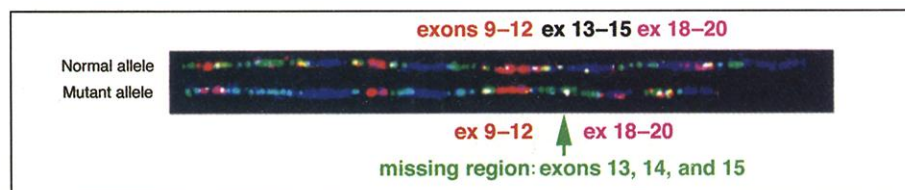
The attack is the opening volley in a battle over the right of Myriad—which earlier had won a hard-fought battle over its patent position in the United States—to market its test in Europe (*Science*, 12 December 1997, p. 1874). The Curie and 16 other labs are considering a challenge to a European patent awarded to Myriad last January for *BRCA1* and *BRCA2* applications. Officials at Myriad—whose researchers played a key role in the discovery of both genes—have vowed to protect their intellectual property.

Mutations in *BRCA1* and *BRCA2* are thought to be responsible for up to 10% of all breast cancers. A team led by Curie ge-

pairs) using a technique called combed DNA color bar coding. The technique was developed in 1994 by Aaron Bensimon, a co-author on the *Journal of Medical Genetics* paper, and his Institut Pasteur colleagues. Pasteur has patented the technique, which consists of stretching out DNA strands on treated glass and visualizing their structure with fluorescent molecular probes. In the paper, the team argues that such large-scale alterations—several of which have been identified over the past 3 years—may account for as much as 36% of all *BRCA1* mutations, and that the Pasteur technique should be considered as an alternative or supplement to Myriad's test.

That's where the Curie's attack on Myriad comes into play. Myriad's European patent, and several it has pending, may make it impossible for European clinicians to use the Pasteur technique for *BRCA1* and *BRCA2* testing, Stoppa-Lyonnet contends. "Their patent gives them the right to demand a monopoly," she says. The dispute reflects a broader concern among many European researchers that current interpretations of European patent law allow biotech and drug companies to put a lock on the use of human genes (*Science*, 23 June 2000, p. 2115).

Myriad officials counter that the French criticisms are off base. "If there is a technique that can detect a mutation not detected by our test, we are not stopping anyone from getting that test done," says Greg Critchfield, president of Myriad Genetic Laboratories, a subsidiary that markets BRACAnalysis.



**Patently obvious?** A previously undetected mutation in the *BRCA1* gene has sparked patent row.

neticist Dominique Stoppa-Lyonnet describes the new mutation—a deletion of three exons, or coding regions, in *BRCA1*—in this month's issue of the *Journal of Medical Genetics*. They discovered the mutation in a patient at Cedars-Sinai Medical Center in Los Angeles who had been diagnosed with breast and ovarian cancer, as well as in other women in her family. She had previously been tested with Myriad's BRACAnalysis technique, which uses automated sequencing to scan for mutations and deletions. But Myriad's test does not detect large-scale DNA deletions or rearrangements, and it failed to pick up any *BRCA1* or *BRCA2* mutations in the patient.

The Curie-led team identified the three-exon deletion (covering 11,600 DNA base

However, if Myriad were to develop techniques to detect large deletions and rearrangements, the company would have the exclusive right to use them, Critchfield claims. "What gives [Curie] the right to take over our discovery?" he asks. "A company has to protect its intellectual property rights."

France's Genetics and Cancer Group—a network of 17 labs, including the Curie, that conduct *BRCA1* and *BRCA2* testing using a variety of methods—is discussing a legal challenge to the patent Myriad received in January. This "opposition" procedure must be filed within 9 months of the award of a patent—in this case, no later than October. Stoppa-Lyonnet says that the group will decide whether to file an opposition "in the coming weeks."

—MICHAEL BALTER



**Leaving.** Robert Fri says he can't commit to the Smithsonian's reorganization plan.

some research units and reorganizing scientific activities into several centers of excellence (*Science*, 13 April, p. 183; 11 May, p. 1034).

Under the new plan, the role staff scientists would play in the museum's exhibits and other educational activities is unclear. Researchers are now actively involved in the design and content of museum exhibits and public programs, and the public has always "recognized exhibits as the veneer with the research and collections behind them," says David Dilcher, an evolutionary biologist at the University of Florida, Gainesville, who is on the museum's advisory board. "If you cut the threads that pull these three things together, then what will become of natural history at the Smithsonian?"

Fri, who led the museum for 5 years, said he could not implement Small's proposed plan: "I do not feel that I can make that commitment enthusiastically," he wrote in his memo. In a prepared statement, Small paid tribute to Fri's contributions but had no comment about his reasons for resigning. Fri's replacement has not been named.

Museum staff members were disappointed by Fri's decision. "He has been a good manager. He has brought stability that we had not had at the museum," says Smithsonian paleontologist Brian Huber. But they weren't surprised. Both Dilcher and advisory board member Emilio F. Moran, an anthropologist at Indiana University, Bloomington, said Small had excluded Fri from the planning process for some time. "Many of us are very concerned about the very top-down, nonconsultative approach of the secretary," says Moran.

Small's proposal to shift the museum's research into a separate administrative center, says Dilcher, will leave the museum a "skeleton devoid of the energy of the scientists." He says he understands why Fri apparently does not want to become the caretaker of these bones.

—ELIZABETH PENNISI