strains, which will provide more genetic and behavioral diversity to compare. The team, funded by the National Institutes of Health, has made its SNP database and gene-hunting algorithm freely available on the Web (mouseSNP.roche.com). "It's a great resource," says geneticist Carollee Barlow of the Salk Institute for Biological Studies in La Jolla, California.

The traits used in the trial run haven't been mapped down to the gene level by any method, so no "gold standards" exist to test the method, cautions Dean Shepherd of the University of California, San Francisco: "To prove what the method is really worth, we'll have to actually find some specific mutations that explain the differences in phenotype." As other researchers search for their own favorite genes, the effectiveness of this new method for mapping QTLs should quickly become apparent. Shepherd, for one, is optimistic, saying "It's extremely likely that in the near future this will really have a significant payoff."

Unemployed? If a new mapping technique pans out, thousands of lab mice may be out of work.

–R. JOHN DAVENPORT

PCR

Roche Dealt a Setback On European Taq Patent

A key biotechnology patent belonging to Swiss pharmaceutical giant Hoffmann-La Roche ran aground on the legal shoals of a third continent last week. On 30 May the European Patent Office (EPO) revoked Roche's patent on native Taq polymerase, a crucial element of the polymerase chain reaction (PCR), the ubiquitous technique used to amplify snippets of DNA. Roche officials say they will appeal the ruling. But this is a costly setback, because the company is already fighting to overturn related decisions in both the United States and Australia.

The ruling marked another in a string of victories for a group of small biotech companies that have challenged Roche's Taq patents in recent years. The companies, led by biological reagent supplier Promega of Madison, Wisconsin, have argued among other things that labs in the United States and Russia isolated the native Taq (n-Taq) enzyme before scientists at Cetus Corp., which transferred the patent to Roche in 1992. The Munich-based EPO agreed, ruling that the patent EP-0-258-017 B1 was invalid. "This decision reaffirms once again what Promega and many others in the research community have long believed: that the Taq patents should never have been issued," says Promega CEO William Liton.

The decision means that Promega can continue to sell n-Taq without paying royalties to Roche. Roche officials argue that this has little effect on the bottom line, because n-Taq makes up only 10% of the Taq they sell; the other 90% is recombinant forms of Taq (r-Taq), which are widely used in automated gene-sequencing machines and are covered by separate patents. But Promega's general counsel Brenda Furlow contends that the legal damage to Roche is broader, because some of the provisions of the patent struck down by the EPO applied to r-Taq, and Roche's separate r-Taq patent is currently being challenged in Europe. "We think the recombinant [Taq] claims will fall," says Furlow.

Genetics researchers are hoping that Roche's patent troubles will bring down prices. Although gene sequencers predominantly use r-Taq, n-Taq remains widely used in a host of other genetic studies, such as genotyping, a procedure used to sort out how genes are inherited in families. These studies typically require Taq or another polymerase enzyme to amplify specific DNA strands. "This is done very well with native Taq," says Maynard Olson, who heads a genome sequencing center at the University of Washington, Seattle. But cost remains a big issue.

Taq currently costs about 50 cents for the amplification step used in a single round of genotyping, says Olson: "There would be a lot more genotyping done if it only cost a penny for the Taq." Olson adds that he is hopeful that if Roche does wind up losing its hold on the Taq patents, this will encourage other companies to enter the market and bring down the cost. "That would be very welcome for us," agrees James Weber, a geneticist whose lab conducts approximately 6 million genotypes a year at the Marshfield Medical Research Foundation in Wisconsin. Weber says that about 8% of his research budget currently goes to paying for Taq. "If we could reduce the cost of Taq, we could produce more genotypes per year. No doubt."

–ROBERT F. SERVICE

ScienceScope

Cuts Coming? Japan's attempts to rein in a budget deficit could crimp spending on science. Last week an advisory council to new Prime Minister Junichiro Koizumi recommended a "large-scale reduction" in funding for public corporations, which include several major science agencies.

The main targets of the cuts are the bodies that run Japan's toll roads and airports. But the budget ax may also fall on RIKEN, the country's largest collection of research labs; the Japan Atomic Energy Research Institute, which leads the nation's efforts on the International Thermonuclear Experimental Reactor project; and the National Space Development Agency (NASDA), which leads Japan's contribution to the international space station and other space activities (such as satellite launch, above). The overall goal is a 20% cut in the $44 billion allotted to public corporations, according to media reports. A NASDA official says that the space agency will "probably be affected, but we just don't know how."

German Reforms Advance Germany's federal cabinet has approved research minister Edelgard Bulmahn's controversial plan to create "junior professorships" and pay professors based on merit rather than seniority. But more than 3700 professors are fighting the reform plan, which also faces opposition in the German parliament.

The 30 May cabinet approval paves the way for likely approval by Germany's lower house of parliament, the Bundestag, this fall. But opponents in the Bundesrat, the upper house composed of the governors of Germany's 16 states, say the plan could impose hefty costs on the states, which bear primary responsibility for universities. Although Bulmahn's plan would provide $170 million between 2002 and 2005 to subsidize new "junior professor" slots, critics contend that it will force cash-strapped states to reduce student enrollments to free up funds for salaries.

Bulmahn isn't backing down. She says the reforms—which also would phase out the nation's archaic Habilitation post-Ph.D. requirement for professorships—are an important step toward "significantly modernizing the higher education landscape."

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