

a patent on the resulting tissue rather than the starting material, whether that is ES cells or stem cells derived from adults.

In the meantime, if an international panel gets its way, patents on DNA sequences could become harder to win. A day before EPO's ruling, the Nuffield Council on Bioethics issued a report recommending that patents on DNA sequences be "the exception rather than the norm." The report calls for patent offices to distinguish among different uses of a genetic sequence—for example, a specific genetic test, a method of gene therapy, or production of a therapeutic protein—and in general to grant patents on a specified use rather than on the DNA sequence itself. Making such distinctions could help clear up some of the ethical and legal debates over DNA patents, says biotechnology patent expert Mildred Cho of Stanford University. But implementing the Nuffield Council's recommendations, she says, "would require a major shift in thinking at the USPTO" and other patent offices.

—GRETCHEN VOGEL

## 2003 U.S. BUDGET

### NSF Gets Big Lift; Pluto Mission Backed

Senators Barbara Mikulski (D-MD) and Kit Bond (R-MO) have delivered on their promise to put the National Science Foundation (NSF) budget on a 5-year doubling track. But they also served notice that they are putting the agency on a tight leash.

Mikulski and Bond are chair and ranking member, respectively, of a Senate Appropriations Committee panel that has written a \$91 billion bill covering the 2003 budgets of NSF, NASA, the Environmental Protection Agency (EPA) and dozens of other agencies. Last week, the full committee approved a 12% increase for NSF, to \$5.35 billion, the largest percentage boost for any major agency in its jurisdiction. The legislators also overrode a White House plan to halt work on a Pluto mission and gave EPA science programs a slight increase.

The committee's vote is only the first step in a budget journey that might not conclude until after the November elections, but it's a big push for NSF's supporters, who have been urging Congress to match the explosive growth enjoyed by the National Institutes of Health in the past 4 years. "This is definitely a positive signal," says Samuel Rankin of the American Mathematical Society and the Coalition for National Science Funding, which is aiming for a 15% increase.

NSF's increase, for the fiscal year start-

ing 1 October, is more than twice the 5% boost requested by the president. Research programs would jump by 15%, to \$4.13 billion. Big winners within that account would include the physical sciences, graduate student stipends, a program to help have-not research states, cybersecurity, and research instrumentation.

At the same time, Mikulski and Bond would throttle back on a new program to improve math and science education (*Science*, 11 January, p. 265), expressing concern about NSF's ability to spend its \$160 million allotment for this year. And they want to keep a closer eye on NSF's management of big projects. In addition to delaying the start of a proposed \$12 million network of environmental



**Promise kept.** Senators Barbara Mikulski (above) and Kit Bond delivered for NSF.

monitoring stations, the bill would cut \$15 million from a new \$35 million earthquake detection and research network, called EarthScope, and freeze the money until NSF hires a permanent director to oversee big new research facilities (*Science*, 12 July, p. 183). The legislators also gave a whopping 28% boost to the agency's in-house watchdog, the inspector general, to carry out more audits of NSF programs.

EPA's science and technology account would receive a 1.7% boost (not counting \$90 million in supplemental funding in 2002) to \$710 million, more than reversing a 4% cut that the White House requested. The increase includes \$10 million for the STAR graduate fellowship program, which the president had proposed transferring to NSF without providing funding—effectively killing it. The Senate bill restores the money and keeps the program at EPA. In a related move, the NSF portion of the bill deletes the proposed transfer of \$76 million in programs from EPA and two other agencies

(*Science*, 8 February, p. 954).

NASA's \$15 billion request—just slightly more than the current budget—would increase by \$200 million in the Senate bill. Legislators also set aside \$105 million for a Pluto mission that the White House has put on hold, an amount that falls \$50 million short of what mission planners say is needed to keep it on track for a 2006 launch.

Legislators also restored a \$7 million cut proposed by the White House in the \$17 million National Space Biomedical Research Institute in Houston, a move that had angered Texas lawmakers. But the NASA portion of the bill is chockablock with projects, such as \$2 million for an aquarium in Maine, that benefit the districts of specific lawmakers but are not related to NASA's mission. The list of so-called earmarks is expected to grow this fall when the House marks up its version of the bill.

—JEFFREY MERVIS

With additional reporting by Jocelyn Kaiser and Andrew Lawler.

## WOMEN'S HEALTH

### U.K. Hormone Trial to Pause for Review

For at least 3 months, no new patients will be enrolled in a large trial of hormone replacement therapy (HRT) taking place in the U.K., Australia, and New Zealand. The U.K. Medical Research Council (MRC), the trial's main sponsor, ordered the pause last week and decided to ask an international panel to recommend whether to continue the trial in the face of evidence that prompted termination of a similar U.S. study 3 weeks ago. However, women already enrolled will be asked to keep taking their pills.

Safety reviewers halted the U.S. study, designed to test the long-term benefits and risks of HRT, after an interim analysis found that taking a combination of estrogen and progesterin was too risky. The reviewers concluded that an increased risk of breast cancer, stroke, and heart disease outweighed benefits related to colorectal cancer and bone fractures (*Science*, 19 July, p. 325).

Despite the findings of excess risk, U.K. leaders of the Women's International Study of long Duration Oestrogen after Menopause (WISDOM) saw no compelling reason to halt their own trial. Both WISDOM's steering committee and an independent safety panel unanimously concluded that the U.S. study, part of the Women's Health Initiative (WHI), had not conclusively demonstrated the increased risk of heart disease. That meant the balance of risk and harm from HRT was still uncertain, they said, and it was ethical to keep enrolling women, provided they were fully informed about the risks (*Science*, 26 July, p. 492).