

edited by CONSTANCE HOLDEN

Medical Use of Marijuana to Be Studied—Again

Instead of stomping out the smoldering controversy over the medical use of marijuana, Administration opposition seems to have helped reinvigorate it.

Under pressure to do something about reports of rising marijuana use, the president's drug-policy office on 30 December warned doctors that if they encourage patients to smoke pot, they might lose their licenses to write prescriptions. (Both Arizona and California passed voter initiatives last fall legalizing marijuana

smoking for patients with life-threatening illnesses such as AIDS or cancer.) Drug office chief Barry McCaffrey said at the time that the health risks of smoking marijuana outweigh the benefits. And Alan Leshner, head of the National Institute on Drug Abuse, publicly asserted that research has conclusively laid the issue to rest.

But instead of cooling the furor, McCaffrey's move stirred advocates of the medical use of marijuana into renewing claims that the government is ignoring

evidence that it works in treating nausea and appetite loss. And a group of physicians, including AIDS clinician Marcus Conant of the University of California, San Francisco (UCSF), filed suit last week, claiming that the White House is interfering with their free speech.

Conant also claims that for 4 years federal officials have used petty tactics to prevent another UCSF physician, Donald Abrams, from conducting a trial to compare the appetite-inducing qualities of smoked marijuana with a widely prescribed medicine (Mari-

nol) based on marijuana's active ingredient, THC.

The upshot of it all? The Administration will undertake new studies to settle the churning controversy. McCaffrey's office is sinking \$1 million into a review of marijuana's medical uses by the Institute of Medicine. (Members of the study panel have not yet been named.) And Leshner will convene a meeting of experts next month to review the scientific literature in an attempt to come up with a consensus on whether marijuana smoking has a place in medicine.

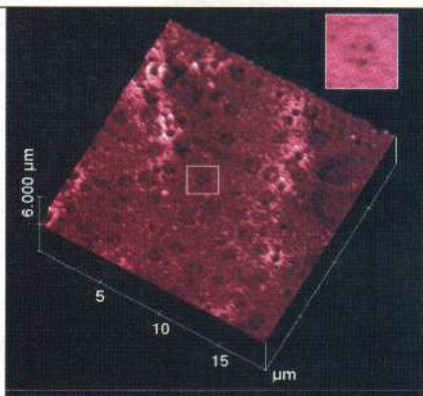
Early Peek at a Cellular Porthole

Researchers have caught the first glimpse in living cells of what appear to be the pores on surface membranes that control the release of chemicals. The findings, published in the 7 January issue of the *Proceedings of the National Academy of Sciences*, cast light on a process behind everything from nerve-cell signaling to the secretion of digestive enzymes.

To spy on cellular secretion in action, a team led by cell biologist Bhanu Jena of Yale University School of Medicine used an atomic force microscope, which runs an ultrasharp tip over surfaces to produce atomic-scale images. Looking at cultured rat pancreas cells, which secrete the

starch-digesting enzyme amylase, they saw a multitude of tiny pits in the amylase-secreting region. These pits appear to be "fusion pores"—valves in the cell membrane. Researchers suspect that vesicles inside the cell that contain compounds destined for secretion dock to these pits. When stimulated to dilate, the pores release the contents.

The Yale group believes it has spotted amylase control valves because when amylase release was chemically stimulated, the pits expanded. And when they inhibited production of a protein thought to be needed to create



Cell landscape. Pits are secretion valves?

directly observed amylase coming out of the pits. Jena says his team plans to add fluorescent markers to the amylase vesicles to see if they dock to the underside of the pits. If that confirms their conclusions, Clapham says, "it's terrific. Seeing fusion pores [in living cells] is something people have been after for a long time."

U.S., Japan Split Japan Prize

Groundbreaking work on cancer-causing chemicals and new manufacturing paradigms has earned four U.S. and Japanese researchers the 1997 Japan Prize, a lucrative award that sometimes foreshadows a Nobel Prize.

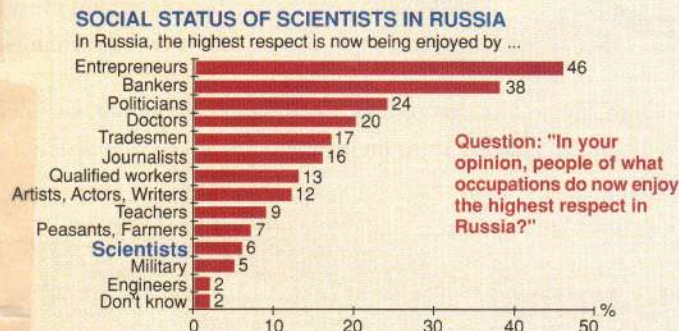
This year, in the category of "biotechnology in medicine," cancer researcher Takashi Sugimura, president emeritus of Japan's National Cancer Center and currently president of Tokyo's Toho University, and biologist Bruce Ames of the University of California, Berkeley, are each getting 50 million yen (\$452,000) for work done independently on how certain environmental chemicals can damage DNA and cause cancer. The work "demonstrated the close relationship between mutagenicity and carcinogenicity," according to the Science and Technology Foundation of Japan, which administers the prizes.

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Russian Scientists Plummet in the Polls

Russian science has more than its crumbling institutes to repair: It now has a major image problem. Once hailed as "Socialist heroes," Russian scien-

tists are now held in less esteem than peasants or politicians, according to a survey by the Center for Science Research and Statistics, a Moscow-based



think tank. "I would suspect that salaries have a lot to do with it," says Alexandra Stepanian, director of the U.S. National Science Foundation's Eastern Europe program. Russian scientists are now getting less than \$100 a month on average and scramble for subsistence by doing odd jobs outside their labs. No wonder talented Russian grad students and postdocs are leaving science in droves for jobs in banking and sales.