

Gene-splice patent showdown

A major biotechnology company, Cetus of Emeryville, Calif., has terminated the license agreement that permits its use of recombinant DNA techniques patented by Stanford University and the University of California, and sale of the products of those techniques. This action challenges the force of the patents covering techniques that Stanford University claims underlie the entire biotechnology industry. Biotechnology continues at Cetus, and at least two of the products are nearing marketability. In a letter to Stanford, Cetus's patent attorney said that the company's current and planned activities are not included "within the scope of any valid claim" of the Stanford-U.C. patents.

The two patents were issued in 1980 and 1984. Currently 73 companies are licensed to use the basic recombinant DNA techniques, says Niels Reimers of Stanford's office of technology licensing. The licensing program already has generated more than \$3.5 million for the two universities.

Antibody counters deadly food poison

The first effective experimental treatment for poisoning with a lethal fungal toxin has been reported by researchers at the Uniformed Services University of the Health Sciences in Bethesda, Md. The toxin, called T-2 toxin, is a trichothecene that is a natural contaminant of food and livestock feed. The antitoxin, developed by Giora Feuerstein, Joan A. Powell and Kenneth W. Hunter, is a set of pure, specific (monoclonal) antibodies that bind to the toxin.

Laboratory rats survived when given the antitoxin either shortly before or after T-2 toxin injection. The antitoxin also reduced mortality when given one hour after the toxin, when the rats already demonstrated profound cardiovascular malfunctions, the scientists reported at the recent meeting of the Federation of American Societies for Experimental Biology.

Routing out phylogenetic bias

While stopping short of advocating affirmative action for invertebrates, a National Academy of Sciences committee recommends that funders of medical research stop favoring experiments on mammals. "The NIH [National Institutes of Health] should support promising research proposals in biomedicine and leave selection of the model [laboratory animal or system] to the insight of the investigator," the committee reports.

Laboratory animals are not necessarily best selected as direct analogs to human diseases, but as potential sources of information that can be generalized to the total body of biological knowledge, the committee states. It cites as examples work on the interactions between cells in development, in immune and inflammatory responses and in learning. "Models... are found in protists, sponges, marine worms, cell and tissue culture systems of many taxa, and mathematical formulations," says the committee's report, "Models for Biomedical Research: A New Perspective." However, the committee concluded that nonmammalian organisms and cell and tissue cultures cannot entirely replace intact mammals in medical research.

The committee recommends that NIH consider setting up computerized data bases organized by biological principles to allow researchers access to findings on different species. Committee chairman Harold J. Morowitz of Yale University cites the data bases of DNA and protein sequences already in operation. As another practical suggestion, Morowitz says that NIH should consider forming a special evaluation group to fund work on organisms not widely used in laboratory research. "Getting something new going is difficult," Morowitz says. "You have no peer group and not much support." The committee warns that "... present procedures for allocating resources may limit support to work on too few species."

Two more bricks in the wall

Evidence of ill effects suffered by nonsmokers exposed to cigarette smoke continues to mount (SN: 4/5/80, p. 221; 1/24/81, p. 53; 5/12/84, p. 296; 6/2/84, p. 342, 348). Two new studies show that smokers may be hurting their spouses and children.

In the May AMERICAN JOURNAL OF PUBLIC HEALTH, Dale P. Sandler and her colleagues at the National Institute of Environmental Health Sciences in Research Triangle Park, N.C., analyze the smoking habits of the parents of 438 cancer patients aged 15 to 59 and 470 cancer-free people. The percentage of smokers among the patients and controls was about equal. They found that, overall, offspring of smoking fathers had a 50 percent higher risk of all types of cancer, with offspring who smoked at a slightly greater risk. They also found that while there was only a small overall risk associated with maternal smoking, the children of smoking mothers were at 2.7 times the risk of those of nonsmoking mothers for leukemia and lymphoma. These statistical observations await biological explanation.

Nonsmoking wives of smokers may also suffer, according to a report in the May AMERICAN JOURNAL OF EPIDEMIOLOGY. Cedric Garland and co-workers at the University of California at San Diego monitored the health of 695 women from a San Diego suburb for 10 years. The death rate from heart disease among smokers' wives was 2.5 times that of nonsmokers' wives, and this figure increased when such known risk factors as blood pressure and cholesterol were ruled out. But, they caution, since the sample size was relatively small, the results are "provocative rather than definitive."

FDA okays

- The Food and Drug Administration has approved a vaccine against *Haemophilus influenzae* type b. The bacterium causes meningitis and other diseases, killing about 1,000 children under 5 years of age in the United States each year and leaving many others with neurological problems. The government recommends that all children over 2 be vaccinated.

- Also just approved: a prescription allergy drug that does not cause drowsiness, and a one-dose treatment for yeast infection.

Sugar babies

Nearly as many pregnant women with none of the standard risk factors for pregnancy-induced diabetes actually develop the condition as do pregnant women in high-risk groups, says Jennifer R. Niebyl, chief of maternal and fetal medicine at Johns Hopkins University in Baltimore. And the most cost-effective way to find these women so that they can be treated is to screen all pregnant women 24 years old and older, she and colleagues will report soon in OBSTETRICS AND GYNECOLOGY.

Diabetes occasionally results from hormonal changes during pregnancy. Babies born to untreated diabetic mothers tend to be larger, threatening the mother and baby during the birth, and can have trouble adjusting to their own normal blood sugar levels.

Niebyl and her colleagues screened 434 pregnant women at Hopkins, 178 of whom had one of the traditional risk factors—obesity, family history, sugar in the urine or a previous large baby. They found only a small difference in diabetes incidence—3.3 percent in the women with risk factors compared with 2.4 percent in the other women.

About 90 percent of women with pregnancy-induced diabetes can be treated with dietary changes, while the rest require insulin. The diabetes usually disappears following delivery.

The American Diabetes Association recommends that all pregnant women be screened. But currently, Niebyl says, testing is not routinely done. For maximum cost efficiency she suggests screening pregnant women over 24, since they have a higher incidence of diabetes.