

izers. "I was surprised that dozens were involved in community research centers I had never heard of, and more surprised yet that many hadn't heard of each other," Sclove says. Groups such as the Policy Research Action Group, a Chicago-area organization that sponsors community research projects by interns and research assistants from local universities, for example, worked largely apart from other groups pursuing similar goals, such as the Community Partnership Center at the University of Tennessee, Knoxville, where graduate students are trained to help communities gain access to the Internet, among other activities.

One strategy that a national network must pursue to succeed is to advocate changes in the reward structure of academic science so that researchers can spend more of their time working with community groups, said Carolyn Raffensperger, a lawyer and coordinator of the

Science and Environmental Health Network, a national alliance of environmentalist organizations. She says scientists now get little credit toward promotion for time spent advising public-interest organizations, and have difficulty publishing results drawn from participatory, multidisciplinary, or public-interest-driven research. As U.S. science shops become more visible and numerous, "our hope is that university administrators, journal editors, legislators, and the public

will see the value in community-based research," Raffensperger says.

No one is underestimating institutional resistance, however. So before departing, conference participants formed committees to flesh out the research network's governance structure, informational programs, and fund-raising strategies. And they agreed to hold a second meeting this autumn to bring more grassroots groups into the network. One person who thinks all this might work is John

Gerber, director of the University of Massachusetts extension program, which co-sponsored the conference. The 74 agricultural extension offices at U.S. public universities, Gerber notes, already have decades of experience working with local communities, and could help lead the charge for more public-interest research. That would take "some reprioritization," Gerber admits. "But these are changes we all need to make."

—Wade Roush

A "SCIENCE SHOP" SAMPLER		
Organization	Location	Goal
Good Neighbor Project for Sustainable Industries	Waverly, MA	provides technical support for industrial pollution prevention
The Highlander Center	New Market, TN	connects environmentally threatened communities with concerned scientists
Center for Neighborhood Technology	Chicago, IL	helps small metalworking shops meet new environmental regulations
John Snow Inc.	Boston, MA	facilitates "popular epidemiology" on health effects of hazardous chemicals
Group de Recherche-action en Biologie du Travail	Montreal, Quebec	helped workers study occupational hazards in poultry slaughterhouses

SOURCE: LOKA INSTITUTE

## AIDS RESEARCH

### Reports Bolster Viral Cause of KS

Proving that an organism causes a disease can be tricky under the best circumstances. And when the disease is a major public health problem, explanations of its cause can generate passionate arguments. So it is with the proposal that a new herpesvirus is the cause of Kaposi's sarcoma (KS), a tumor famous for the purple skin splotches that 20% of HIV-infected gay men develop. Back-to-back papers published in the 25 July *New England Journal of Medicine* (NEJM) and the 1 August *Nature Medicine* offer conclusive proof of their claim, say supporters. But some prominent skeptics are still far from convinced.

The new studies extend the work of Columbia University molecular biologist Yuan Chang and her husband, epidemiologist Patrick Moore, who first identified KS-associated herpesvirus (KSHV)—also known as human herpesvirus-8—in 1994 (*Science*, 16 December 1994, pp. 1803 and 1865). In the current papers, Chang, Moore, and co-workers report that antibodies to putative KSHV proteins are common only among those with KS—and among people who eventually develop the disease. "This is essentially the last piece of evidence needed for proving causality," said Moore in a Columbia press release. A third paper in *Nature Medicine*, by Don Ganem and colleagues at the University of California,

San Francisco, offers additional evidence by showing that the antibodies are common only in an HIV-infected population.

In the NEJM article, the Columbia group applied the new antibody test, developed by Shou-Jiang Gao, to blood samples from 122 blood donors, 22 people infected with Epstein-Barr virus—a virus related to KSHV—and 20 HIV-infected hemophiliacs. None of these people had antibodies to KSHV. In contrast, a separate analysis of 40 gay men with AIDS-associated KS showed that 32 (80%) had the antibodies. What is more, stored blood samples of the 80% who tested positive revealed that 52% of them had made the antibodies 6 to 75 months before KS appeared.

This group's *Nature Medicine* paper extends the epidemiologic evidence by showing that the supposed KS antibodies could also be found in more than 70% of Italian and Ugandan AIDS-KS patients. The Ganem group's paper provides supporting evidence for the link between KS and KSHV by showing that the antibodies were found in 30% of 279 HIV-infected blood donors, but in only 1% of the HIV-uninfected donors.

The new studies don't explain one intriguing question facing researchers: Why do other human herpesviruses appear widely throughout the population, while KS in AIDS

patients is almost exclusively confined to gay men? Chang and Moore don't address why the virus has established itself in the gay population, but they believe their work shows it is not ubiquitous.

Their latest findings have won over several noted KS-AIDS researchers. But they have had trouble convincing other leaders in the field, including Robert Gallo, who thinks that HIV itself leads to KS. Gallo, head of the University of Maryland's Institute of Human Virology, stresses that these new results are "very, very interesting." And he says he is keeping an open mind about the possibility that KSHV causes KS. "Nothing rules it out," Gallo says. However, he adds, "these data are certainly not proof of causation."

Among his reasons for doubt, says Gallo, is a recent report from Philip Browning of Vanderbilt University offering evidence that, contrary to the Moore and Chang findings, the virus may be widespread in populations that don't develop KS. Steven Miles of the University of California, Los Angeles, who organized the May conference at which Browning presented his findings, says his lab has had similar results.

But Miles sees a middle ground in the dispute. "I firmly believe [KSHV] is involved with the pathogenesis of the disease," he says, "but we're still missing a trigger as to what causes it."

—Jon Cohen