

NEWS

In addition, immunologists both in and out of Imanishi-Kari's closely knit circle of defenders also say the ORI misunderstood several crucial scientific points, including the working of a reagent known as Bet-1. (Bet-1 is a reagent Imanishi-Kari used to distinguish between antibodies produced by the mouse's own gene and ones produced by a transplanted gene.) The ORI, however, has lined up two renowned scientists to testify about the science: Walter Gilbert, a Nobel-winning biologist from Harvard University who has become one of David Baltimore's leading foes, and Joseph Davie, a widely respected immunologist who chaired the ORI's advisory panel. During the probe, Davie became vice-president for research at Biogen Inc.,

a biotechnology company based in Cambridge, Massachusetts, whose board of directors includes Gilbert.

The differing views of the evidence will not be sorted out immediately. Because of scheduling conflicts, the Appeals Board hearing is slated to break in July and resume in August, with a ruling expected late this year. Guilty or not, Imanishi-Kari's career is up in the air. Although Imanishi-Kari is seeking to extend her appointment at Tufts until at least after the appeal, as *Nature Medicine* went to press, the university was planning to relieve her from her duties on 1 July. If she is ultimately exonerated, however, she will be allowed to apply for tenure.

JOCK FRIEDLY  
Washington, DC

## India forges ahead with contraceptive vaccine

Researchers in India appear to have the edge in a keenly watched race to develop a vaccine that will provide protection against pregnancy. Early safety and efficacy data from human clinical trials of the anti-HCG (human chorionic gonadotropin) vaccine, developed

at the National Institute of Immunology in New Delhi, look promising. A larger efficacy trial of the vaccine is expected to begin sometime next year.

In a limited trial of the vaccine to determine safety and efficacy, 118 (80 per cent) of the 148 women



G.P. Talwar, developer of India's candidate vaccine for protection against pregnancy.

who took part produced significant levels of anti-HCG antibodies (levels greater than 50 ng ml<sup>-1</sup>), and were protected against pregnancy for between 6 months and 2½ years (the range is a result of some women joining the study late).

"At present, ours is the only contraceptive vaccine that has passed safety and efficacy tests," says Gursaran Prasad Talwar, the vaccine's developer and former director of the Immunology Institute.

A rival anti-HCG vaccine is being developed by Vernon C. Stevens of Ohio State University, USA, with support from the World Health Organization (WHO). However, a (phase II) safety and efficacy trial of the vaccine in Sweden was suspended in June 1994 following "the occurrence of unexpected but transient side effects in the majority of the first seven women volunteers admitted to the trial." Thought to be due to an excessive 'local' reaction to the vaccine, animal experiments are now under way to identify the cause of the side-effects.

The two vaccines have been in a race

## Rats, rats, rats!

During the past year, rumours have abounded of increasing rat populations in several large cities. From New York to Washington and Warsaw to London local papers have carried stories citing anecdotal evidence of increased rat sightings, infestations, and even rat attacks. In urban areas, the chief culprits are from either *Rattus norvegicus* or *Rattus rattus*.

In spite of such observations, the claims remain largely unsubstantiated. "The rat problem in metropolitan areas around the world is probably the worst it has been in the last 50 years or so," says Gregory Gurri-Glass of the Johns Hopkins School of Public Health and Hygiene, "but no one is interested in putting money into studies to learn what is really happening."

Large populations of rats in urban areas pose a well-documented threat. The bubonic plague, which ravaged communities in Europe and Asia in the mid-14th century, causing widespread disruption, was transmitted by the bite of a flea from rodents infected with the bacteria *Yersinia pestis*.

In Korea in the early 1980s, *R. norvegicus* and *R. rattus* were found to carry a hantavirus that caused haemorrhagic fever with renal syndrome in humans. Studies later found that the Seoul virus, as it was named, was related to, but distinct from previously identified Hantaan virus. On examining rats

from the inner-city neighbourhoods of Baltimore, Maryland, Gurri-Glass and his colleagues identified in 1987 a 'Seoul-like' hantavirus, which they called Baltimore rat virus. Although subsequent studies have failed to identify anyone with acute symptoms of the disease,

Gurri-Glass says he has found people with antibodies to the virus. "There probably is a lot of morbidity floating around in human populations from viruses carried by rats that remains undetected," says Gurri-Glass.

The threat is no less real because it has not yet happened. "If diseases like the Seoul virus broke out they could kill hundreds or thousands," says Stephen S. Morse of the Rockefeller University. Morse speculates that the increased

threat is due at least in part to the unprecedented ecological and demographical changes that are occurring everywhere.

In the book *Emerging Viruses*, Morse and others advocate establishing a worldwide network for predicting where viral outbreaks might occur. James E. Childs of the US Centers for Disease Control and Prevention says that such a global surveillance system would not only monitor disease spread, but would also track reservoir host populations, alerting officials and the public to the risk.

ROSLYN M. DUPRÉ  
Washington, DC

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J.E. Childs with a Norway rat caught in Baltimore, Maryland.

Courtesy of Gregory Gurri-Glass