

Charges fly over rival leprosy vaccines

New Delhi. The Indian government is trying to resolve a bitter dispute between two leading scientists over the source of a leprosy vaccine in trials being conducted in northern Indian states by the National Institute of Immunology (NII) in New Delhi.

G. P. Talwar, emeritus scientist at NII, claims that the vaccine was prepared from an organism isolated in 1978 at the biochemistry laboratory, of which he was then head, of the All-India Institute of Medical Sciences (AIIMS). The organism, *Mycobacterium-w* was taken from a patient suspected of having tuberculosis, and details were published in the journal *Leprosy India* later that year.

But Mahadev Deo, director of Bombay's Cancer Research Institute — previously known as the Indian Cancer Research Centre (ICRC) — and a former student of Talwar, says that *M.w.* is identical to a bacillus cultivated in his own laboratory since 1958. A leprosy vaccine prepared from ICRC bacilli has been under trial by Deo in Maharashtra state since 1987, with results similar to those obtained with the NII vaccine.

Deo believes a mix-up could have occurred in Talwar's laboratory at the AIIMS during a study of the comparative immunology of various mycobacteria, including the ICRC bacilli supplied by the Bombay institute. He claims that the identity of the two organisms has been confirmed by a comparative study of their genomic DNA by Barry Bloom and his colleagues at the Albert Einstein College of Medicine in New York in 1989.

India's Department of Biotechnology is now investigating Deo's claim that the two vaccines are identical. The dispute has been simmering for several years; but it has been

is still a matter of dispute, and claiming that the change is being sought by individuals who, he says, had no involvement with the original isolation of the organism, as Talwar was not an author of the 1978 paper to *Leprosy India*.

Deo also alleges that an attempt is being made to "immortalize" Talwar by calling the organism *pranii*, as Talwar is known to his friends and colleagues as "pran". In response, Talwar says that a nucleotide analysis at the NII has shown that *M.w.* is "a totally new mycobacterium". He also says that the name *pranii* was chosen because the first three letters are the initials of first two authors of the paper sent to *IJL*, and the last three stand for the institute itself.

Deo's allegations are to be considered shortly by the Society for Scientific Values, a body that investigates cases of suspected

scientific fraud. Meanwhile V. Ramalingaswami, a former head of India's medical research who is mediating between the two scientists, has asked Talwar to withhold publication of the *IJL* paper until the source of *M.w.* is settled.

But there is still a hitch. The Department of Biotechnology has asked both Talwar and Deo to submit samples of their organisms for comparison using traditional and advanced microbiological tools. But so far Deo is refusing to cooperate, arguing that the data from Bloom and his colleagues have already established that the two organisms are identical.

Talwar describes Deo's attitude as counterproductive, and claims that India's progress in leprosy research is being threatened by what he calls unfounded statements and allegations. **K. S. Jayaraman**

South Korea launches Biotech-2000

Tokyo. The government of South Korea has launched a massive government-industry programme to promote the development of biotechnology. Planned as part of a broad strategy to catch up with the technology of advanced nations, the programme will, according to the Ministry of Science and Technology (MOST), involve the expenditure of 16,000 billion won (nearly US\$20 billion) over the next 14 years.

The new programme is called Biotech-2000. It began earlier this month with a government budget of 54 billion won (US\$67 million) for the current fiscal year; industry is expected to contribute another 167 billion won.

The figure of \$20 billion to be spent in the period up to 2007 needs to be treated with a certain amount of scepticism, however. When South Korea launched its 'G-7 project' in 1991 to catch up with the technological achievements of leading industrial nations in fields such as computer memory chips, the government estimated that total investment would be about US\$7 billion by 2001.

By last year this estimate had dropped to \$4.2 billion, with actual expenditure in the first two years of the ten-year project amounting to about 550 billion won (US\$700 million) (see *Nature* 364, 382; 1993). One diplomat in Seoul says that he always divides such projections by three to arrive at a more realistic estimate.

But despite such scepticism, Biotech-2000 is still likely to be big, and will dwarf the G-7 project in scale. As with G-7, several other ministries will participate in addition to MOST. These include the Ministry of Trade, Industry and Energy, the Ministry of Health and Social Affairs, the Ministry of

Education, the Ministry of the Environment and the Ministry of Agriculture, Forestry and Fisheries.

The programme will cover six broad fields: industrial technology; health technology (including biomedical engineering, molecular biology of biological functions, and human genome research); agricultural and food technology; environmental technology; energy technology; and basic life science technology.

The key participants will be MOST's Genetic Engineering Research Institute (GERI) in Taeduck science town, and the agricultural ministry's Korea Food Research Institute in Seoul, as well as the Korea Institute of Science and Technology (KIST), to which GERI is affiliated.

Under its 'centre of excellence' scheme, MOST will also provide about \$1 million a year over nine years to nine selected centres in universities that will participate in the programme.

Biotech-2000 was first proposed by GERI in 1991, according to Hyu Gyu Lee, director of MOST's research planning division. But it did not get off the ground until last July, when it received the backing of a recently-formed association of biotechnology academics and industrialists, says a GERI official.

The minister of science and technology, Si Joong Kim, appointed last year and a chemist by training, has been a major driving force behind the biotechnology programme. Bioscientists expect it to prosper as long as he remains in power. But changes in ministerial posts in South Korea are frequent, and the long-term future of the programme therefore remains uncertain.

David Swinbanks

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Leprosy treatment in a Bombay clinic.

brought to a head by an attempt by Talwar and his three colleagues at the NII to change the name of the organism from *M.w.* to *M.pranii*.

The change of name has been proposed in a paper submitted to the *International Journal of Leprosy (IJL)*. But in a letter to the Department of Biotechnology, Deo describes the proposed renaming as unethical and a "fraud on the scientific community", pointing out that the source of the organism