▶human genome. Indeed, Hansen says that the completion of the yeast genome will have a broad impact on biological research and development. "It has been money well spent for Europe's taxpayers," he says.

The European Union is also supporting the sequencing of another yeast, *Schizosaccharomyces pombe*, which has just three chromosomes. Scientists are looking forward eagerly to comparing the genomes of the two yeasts, as *S. pombe* is in some ways closer to humans than *S. cerevisiae*.

The completed sequencing of the yeast genome follows that which has already been accomplished of two prokaryotes, the 1.8 MB genome of *Haemophilus influenzae* and the 0.58 MB of *Mycoplasma genetalium*.

Few deny that the completion of the yeast genome represents a major success for Europe, and vindicates its strategy of distributing the work among many laboratories in a tightly coordinated way. The sequencing of the first chromosome of yeast — chromosome III — in 1992 was accomplished by each European laboratory sequencing a predetermined portion of the chromosome. At the time, it was the first chromosome to be sequenced and the largest continuous sequence of DNA known (see *Nature* **357**, 38; 1992).

This approach was subsequently extended to the whole genome, with individual chromosomes being attributed to groups of 15–20 laboratories, which in turn divided the work among themselves. All data was centralized at the Martinsried Institute for Protein Sequence in Germany.

But the efficiency of this network model cannot be measured simply by the rate of sequencing, says Hansen. He points out that the large number of scientists involved are not merely engaged in sequencing but are also carrying out their own research, thus multiplying the benefits. "Scientists at centralized sequencing facilities can be too removed from the real world of research", he claims. **Declan Butler**

MRC faces negligence claims over growth hormone victims

London. Britain's Medical Research Council (MRC) was in court last week facing allegations of negligence in the experimental treatment in the 1960s and 1970s of children using human growth hormone (hGH) from the pituitary glands of people who had died.

The programme was discontinued in 1985, after three patients who had undergone the treatment in the United States died from Creutzfeldt-Jakob disease (CJD). Later that year a new technique for manufacturing hGH by genetic engineering became available.

The High Court in London has now opened a hearing on eight of 17 cases of CJD contracted by individuals in the United Kingdom treated with hGH before 1985. All but one of the 17 have since died.

Families of the eight victims started legal action against both the MRC and the Department of Health after the latter turned down calls for a public inquiry. At issue is whether the MRC and the department owed a duty of care to the children undergoing hGH treatment and, if so, whether they were in breach of that duty.

The families allege that the two bodies were negligent in not taking into account evidence that CJD was transmissible, not ensuring that no pituitaries were taken from people suffering from neurological disease, and not using the safest method of extraction of the hormone.

The MRC began the hGH programme in 1957 and ran it until the Department of Health took over control in 1976. But the MRC continued to manufacture the hormone until 1980, while the Department of Health was setting up production facilities at the Centre for Applied Microbiology and Research at Porton Down.

Between 1957 and 1980 the only source of the hormone was the pituitary glands of people who had recently died. "Demand for the human growth hormone increased because it was a successful treatment," says a spokesman for the MRC. Nearly 2,000 people received the hormone treatment.

Over the period when hGH was extracted from cadavers, nearly one million pituitary glands were used in the United Kingdom. Mortuary attendants removed the glands and at one stage "received a nominal fee of twenty pence per gland". This system was later changed and mortuary attendants were paid a flat rate for the extra work involved in removing the glands.

According to Hugh Fraser, former head of the Neuropathogenesis Unit at the Institute for Animal Health in Edinburgh — and an expert witness in the court case — a critical question the judge will have to decide is "what knowledge was in place and when".

As early as the late 1950s, it was recognized that scrapie-like diseases (such as CJD) might be transmissible. Later it was shown that biopsy material taken from the brain of a patient with CJD induced a similar brain disease when injected into a chimpanzee.

Such information raised warning signals among researchers. In October 1976, for example, Alan Dickinson, then head of the Disease Studies Unit at the Agricultural Research Council's laboratory in Edinburgh, says he telephoned the MRC to inform them of potential risks in the procedure.

A spokesman for the MRC said last week that when the first evidence suggested the possibility of potential risks, it was investigated. "When the evidence became substantive, they stopped using it," he added.

Richard Nicholson, editor of *The Bulletin of Medical Ethics*, points out that doctors providing a drug or a hormone as a treatment have a duty to inform their patients of any known side-effects. "The question is, at what stage did the MRC know about these risks?", he says.

While acknowledging that contaminated hGH was the source of the CJD infection, the Department of Health and the MRC deny negligence. In a statement issued last week, the MRC says that many people recognize that no form of medical treatment is without risk, and denies that it was negligent in supporting and monitoring the trial.

Irwin Mitchell, the solicitors for the plaintiffs, say that the court's judgement will have a direct effect on a further 200 cases now pending that have been filed on behalf of those who have not developed CJD as a result of hGH treatment, but fear that they may do so. **Ruth Bell**

Italian researchers look for return of Ruberti

Rome. **Sunday's general election in Italy seems to have brought good news for Italian researchers, who are optimistic that they will find the new centre-left government more sympathetic to the needs of science than its recent predecessors — and the familiar figure of Antonio Ruberti once again as research minister.**

Romano Prodi, the new prime minister, who is professor of economics at the University of Bologna, has previously said that he ranks science and higher education among his priorities (see *Nature* 375, 620; 1995). The quality of science in Italy is patchy, he said last year, and this must change. During the election campaign he named Ruberti as official candidate for the research minister post.

Ruberti, who is 69, will bring much-needed experience to the job. He was formerly Italy's research minister for the five years up to 1992, during which time he introduced some important legislation, including laws on the autonomy of universities. He then served for two years as European Union research commissioner.

Ruberti: heading for government?

Ruberti is well known as a supporter of basic research, as well as a believer in the importance of European collaboration. He says that, if appointed, he is keen to install appropriate structures for quality control of Italian research, and to increase the level of university autonomy A. A.

© 1996 Nature Publishing Group