Japanese government backs genome R&D

Ambitious plans to strengthen Japan's genome research and development (R&D) effort received a significant boost in March, with the formal announcement of two new government-backed genomics companies. Genox Research Institute (backed by the Ministry of Health and Welfare), and Helix Research Institute (backed by the powerful Ministry of Trade and Industry), will focus on the analysis of genetic information and the development of new applications, technologies and drugs. It is hoped that these new joint ventures between the government and private companies from the pharmaceutical, chemical and optical industries, will provide a low-risk route into genome R&D for Japanese industry (*Nature Medicine* 1, 1232; 1995).

The Genox Research Institute will be based at the National Center for Children's Disease in Tokyo. Scientists there will study the relationship between specific genes and diseases. The institute will receive 4 billion yen (US $40 million) over seven years, half coming from the government and the remainder from the eight participating companies.

Teruhisa Noguichi, president of Helix Research Institute.

The Helix Research Institute will be located at Kazusa DNA Institute, a molecular research center east of Tokyo, and will concentrate on developing new technologies for DNA diagnosis of genetic disorders, and high-speed automated screening systems to analyze gene function. The government is putting up three-quarters of the 6.6 billion yen (US $66 million) being invested over six years, the rest coming from ten private companies. Teruhisa Noguchi, vice-president of Yamanouchi Pharmaceutical, has been appointed president, and Yukio Takigawa (from Mitsubishi Chemical) director of research.

The companies will work together closely to set up a network linking researchers and academics throughout Japan, in order to build the "infrastructure and knowledge necessary to create the DNA industries of the future," says Yoshihiro Ohtaki of Japan Finance Corporation, a leading venture capital company investing in the Helix Research Institute. Ohtaki hopes that the companies' activities will help researchers in other centers funded by different government ministries (who have often found it politically difficult to work together) to collaborate freely with each other, and will help Japan make a significant contribution to genomic research on an international level.

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New UK genomics company sees double

On 2 May, 500 sets of twins will let their hair down at a party in their honor at St Thomas' Hospital in London. The 1,000 guests, gathered in a marquee erected for the event, will be told by Timothy Spector (their host) that the genetic information previously gathered from them will form the intellectual capital of a new genomics company, Gemini Research.

IMAGE UNAVAILABLE FOR COPYRIGHT REASONS

Gemini, the first genomics company to base its strategy entirely on the study of twins, has bought exclusive rights to exploit the twin database set up by Spector in 1992. Over the next two years the company plans to extend the existing database to include information on 500 different characteristics of 5,000 sets of twins. Gemini will pay for thirty researchers at St Thomas' to enlarge the database, including genotyping and linkage analysis, and will also collect twin data at two centers in Australia.

The database will be used to study the functions of genes in common chronic diseases, concentrating initially on osteoporosis, osteoarthritis, obesity and type II diabetes (where the company's academic collaborators already have a focus). The aim is to link gene sequences with their function and to patent the genes.

According to Simon Kerr, the chief executive of Gemini, the number of twins sampled is already large enough to begin genotyping, and affected sib pairs are being recruited to accelerate discovery in specific areas. The hoped-for data on 10,000 individuals "will provide enough phenotypes to find all the genes that matter," in any particular disease, says Kerr.

The new company will be based in the United Kingdom, but is currently looking for a site for laboratories to carry out research. It also expects to sign licenses for pharmaceutical companies to commercialize its products.

Spector points out that the approach is a neat reversal of many previous twin studies. "For a long time identical twins separated at birth have been used to assess the effect of the environment on individuals with the same genes. We are particularly interested in exploiting the genetic differences in non-identical twins raised together to see how different genes manifest themselves in people who are matched for age and upbringing."

Although a number of genomics companies, particularly in the United States, are working on the genetic basis of common diseases, none has focused on the power of twin data to the degree intended by the new company. However, Gemini officials expect there will be several "me too" companies, and for this reason they are keen to complete their database quickly. They also hope the publicity for the grand twins party will encourage more twins to volunteer.

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