



## **PRESS RELEASE**

### **European research project looks for genetic basis of human disease**

The European Commission has awarded 11 million Euro from the Framework 6 Programme to fund a research project that will develop tools to allow scientists to use the rat as a model organism to understand better how genetic variation can lead to disease in humans. The European Rat Tools for Functional Genomics (EURATools) project will involve scientists from a consortium of 17 research institutes in Europe and China. Together they aim to develop genomic tools and nuclear transfer procedures for use in research. The four-year project began in March 2006.

The move follows worldwide efforts to sequence the complete genome of many species including humans and rats. Now that the sequence of much of the rat genome is known, the next step is for biomedical researchers to define the specific sequence and function of each of the individual genes. The EURATools project will develop the scientific tools researchers need to achieve this.

The initial focus will be on genes involved in cardiovascular and inflammatory diseases, two of the most common causes of ill health in western society. Identifying these disease genes will help scientists to learn how disease genes function in relation to other genes, how gene variation affects protein production and finally to figure out what influence the corresponding human genes have on human disease.

Single variations in the DNA sequence in each gene and the strength of expression of each gene will be explored. Data interpretation tools will also be developed in the bioinformatics section of the project to allow researchers to analyse efficiently the millions of genetic variations likely to be discovered.

The results of these genetic studies in rats will be translated to work out how genes cause human diseases. The research community will then interpret the results to improve prevention, diagnosis and therapy for human genetic diseases.

The EURATools Project Co-ordinator Professor Tim Aitman of the Medical Research Council's Clinical Sciences Centre said: 'The project explores the genetic basis of rat disease characteristics and uses the results to improve use of the rat model for study of common human diseases. We will develop and use tools for finding disease-causing genes and will then look at these genes specifically to find the mechanisms by which these genes and genetic variants induce disease. If we understand better the influence of how genetic factors make the difference between a healthy and a diseased individual, we can also find ways to design new drugs and new ways of curing and preventing these diseases.'

You can find out more by visiting the EURATools website: <http://www.euratools.eu>

## Notes to editors

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