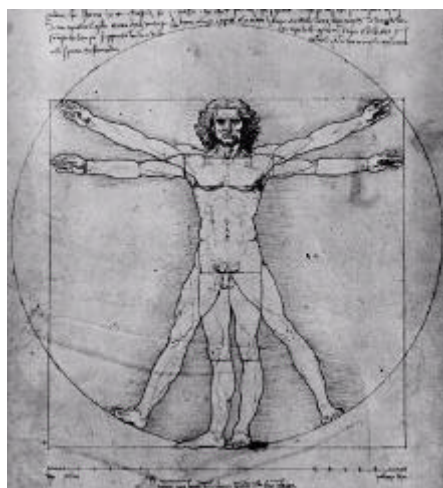


Human Genome Sequence Complete

June 26 2000 will go down in history as the day the announcement was made that the human genome sequencing project had been completed. At a ceremony held simultaneously at the White House in Washington, DC and 10 Downing St, London, President Bill Clinton and Prime Minister Tony Blair congratulated the team of international scientists who made this daunting project possible. Over 1000 scientists at locations around the globe participated in the project.



Complete?

In reality, however, the task is still not complete. Only 97% of the genome has been sequenced, although the remaining portion is unlikely to hold much fundamentally new information. The project was completed 5 years ahead of schedule, a feat made possible by the vast increases in sequencing technology and the abilities of computers to store and manipulate data. The president and chief scientific officer of Celera Genomics, the controversial Dr J Craig Ventner, announced earlier this year that his company had virtually finished the task. This prompted politicians on both sides of the Atlantic to announce that the

information revealed by the sequencing effort would be put into the public domain.

Treasure map

What is still uncertain is how many genes the genome contains. Estimates vary widely from 34,000 to 120,000. What does this mean for the biotechnology industry? With the sequence available, scientists will be able to determine exactly how many genes there are and what they do. This will bring revolutions in medical treatment for many, if not all, forms of disease. The key question is who will be quickest to read the genome **treasure map** and produce significant medical advances and commercial profits?

Hong Kong Government proposes fingerprinting strategy

The Hong Kong SAR Security Bureau and the Public Security Bureau of the PRC have announced the outline of their joint strategy to perform DNA fingerprinting to confirm the eligibility of migrants to Hong Kong claiming right of abode. It is estimated that 170,000 to 250,000 families need to provide further documentary evidence of their right of abode in Hong Kong. The Hong Kong and mainland authorities established that obtaining a DNA fingerprint was the most appropriate way of confirming relationships between claimants and Hong Kong permanent residents.

From the Editor

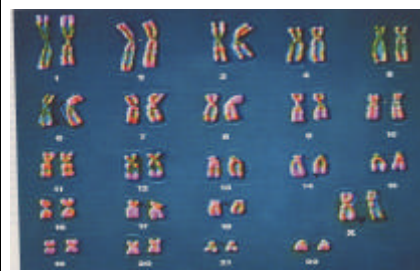
Welcome to the second edition of *Asia Biotechnology Forum*, a monthly online newsletter providing news and information on the events affecting biotechnology in Hong Kong and Asia. This newsletter is provided with the compliments of Hong Kong DNA Chips Limited.

In this issue we report on the completion of the human genome sequencing project and the decision by the Hong Kong Government to support DNA fingerprinting of migrants seeking right of abode in the SAR.

Science Corner

Gene *n*.

The basic unit of inheritance, by which hereditary characteristics are transmitted from parent to offspring. At the molecular level a single gene consists of a length of DNA (or in some viruses, RNA) which exerts its influence on the form and function of an organism by encoding and directing the synthesis of a protein, or in some cases, a tRNA, rRNA or other structural RNA. Genes are made up of coding sections that contain **blueprints** to construct functional components of the cell. They also contain regulatory sections that determine when and where they are switched on and how much of their particular product is made.



Costs

A key feature of the proposal is that the claimant (usually a child or spouse) is tested in the PRC, while the sponsor is tested in Hong Kong. The costs of the testing will be borne by the applicant and are estimated to be about HK\$1500 for tests conducted in Hong Kong and RMB 1100 for tests conducted in the PRC. However, this cost will probably not cover the capital costs of setting up the laboratory, the salary and benefits of the civil servant scientists, or even the annual running costs of the laboratory. Many questions remain about the extent and even the desirability of these proposals. Many biotechnology companies in Hong Kong are concerned about the

adverse effects on their business due to the effective removal of an entire market.

[An editorial on the implications of this proposal for the biotechnology industry in Hong Kong will be featured in the next issue of Asian



Corporate information

We hope you enjoyed this edition of **Asian Biotechnology Forum**. If you have any news or topics you would like to see featured in upcoming editions, or you have any comments or queries we would be pleased to hear from you.

Hong Kong DNA Chips Limited.
1805-6, 18/F, Lu Plaza,
2 Wing Yip Street
Kowloon, Hong Kong SAR
China

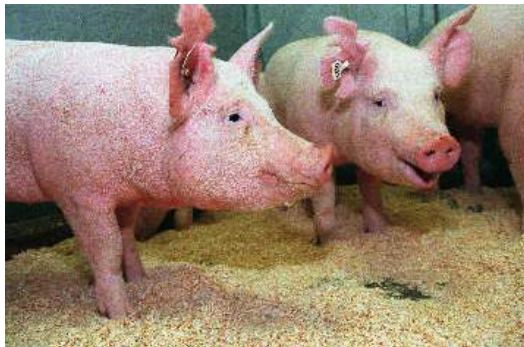
Tel: (852) 2111 2123
Fax: (852) 2111 9762

Email:
dnachips@dnachip.com.hk

Website:
<http://www.dnachip.com.hk>

Bringing home the bacon !

As part of the recently completed Human Genome Project, mainland scientists carried out about 1% of the sequencing - specifically, they sequenced the short arm of chromosome 3. This demonstrated the technical ability of Chinese scientists in the field of biotechnology. On July 3, mainland experts announced the start of the Pig Genome Project. This will be the second genome sequencing project undertaken on the mainland, the first being a programme to fully sequence the rice plant. Pork is probably the most important source of protein in Chinese food. In the future, transgenic pigs may also be used to provide organs for human transplantation and to produce large amounts of pharmaceuticals, secreted in blood, milk or urine. Pigs differ from humans by less than 10% at the DNA level. The Pig Genome Project will provide important data on how to improve yields of both pork and other economically valuable commodities.



Disclaimer:

The information contained in this newsletter is derived from a variety of sources. Whilst every effort is made to ensure accuracy, HKDNA Chips makes no claims as to the veracity of the information presented.

Next Issue

In ABF September we will focus on

The growing concerns about the proposed plan by the Hong Kong SAR Government and the Public Security Bureau of the PRC to conduct DNA fingerprint analysis on migrants wishing to claim right of abode in Hong Kong.

The future use of SNPs in medicine

GM Fish

Editor:

Dr. Richard Collins

Assistant Editor:

Wong Sanyuen

Designer:

Nathan Loong

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