

**STATEMENT TO LEGISLATIVE COUNCIL BILLS COMMITTEE  
IMMIGRATION (AMENDMENT) 2000**

**Hong Kong DNA Chips Ltd**

We offer this considered opinion to the Bills Committee after consultation with many individuals and groups interested in the development of biotechnology in Hong Kong.

We are opposed to the proposal by the Government that the genetic testing of individuals claiming right of abode be conducted solely by the Government Laboratory on behalf of the Security Bureau and the Immigration Department. There are several reasons for our objection which are noted below:

1. Technical objections to the manner in which the test is conducted;
2. The test constitutes interference by the Mainland;
3. The test interferes with the rights of the claimants;
4. The Government has misinformed the public.

**Background**

A person claiming right of abode must be able to prove a genetic relationship with a person already having that right. The most accurate means of achieving this is through a DNA parentage test. The Government proposal is to restrict testing to the Government Laboratory. The reason for doing this is, “...to ensure control and to prevent abuse.” (Mr. Timothy Tong, Deputy Secretary for Security; pers. comm.; 27/7/00). The most common situation encountered is for a child to claim right of abode through its father. Consequently, the father is usually resident in Hong Kong and the mother and child usually resident in Mainland China. The parentage test as described by the Bill requires the mother and child to remain in the Mainland and submit samples of their DNA for testing to the Criminal Technology Division of Guangdong Provincial Public Security Department. Similarly, the father remains in Hong Kong and submits his DNA sample to the Government Laboratory. Genetic profiles are constructed by two separate laboratories. The results obtained by the Mainland and Hong Kong laboratories are then exchanged and compared. If accepted, the relevant documents are issued.

**Objections on technical grounds**

We object to the use of separate laboratories for testing. The genetic test used is very

sensitive and minute changes in the procedure may affect the results. Changes in composition of the reaction mixture, may have profound effects on the outcome. Even apparently mundane variations, such as the source and supplier of a particular reagent, may cause appreciable differences in the results between laboratories. Other effects, such as temperature changes, are well known to affect experimental results. I know that the Government Laboratory has gone to great lengths to define as accurately as possible the protocol to be followed. However, a precise definition of the protocol is not sufficient to ensure accurate results. Operator performance is a significant cause of inaccuracy and that cannot be mandated by any protocol. The **ONLY** way to resolve this problem is to have the same operator perform all the tests for one particular family using the same test reagents and equipment.

Modern analytical equipment for DNA analysis is designed to minimize variation between experiments. However, it cannot minimize variability between two separate experiments performed on different days by different technicians on different machines using reagents prepared by different people. The entire premise that a protocol is sufficient to reduce variability is nonsense. This view is supported by Dr Frederick Leung Chi-ching, Dean of Science at the University of Hong Kong, who said, “... **having two laboratories testing different samples goes against accepted protocols as well as common sense.**” (SCMP, 17/7/2000). Separate testing also opens the way for legal challenges to the validity of the test procedure.

### **Interference by Mainland**

The involvement of the Mainland in parentage testing is due to their request to be assured of the validity of the claimed parent-child relationship and to be involved in the process through which such a relationship is established (Timothy Tong, pers. comm.; 27/7/00). However, involvement can take many forms and does not necessarily require an active participation in the testing itself. The Mainland should restrict itself to the verification of documents, photographs and fingerprints of applicants, the accurate and timely collection of samples, and their secure delivery to a central testing centre in Hong Kong. A panel of Mainland experts can also be appointed to analyse the raw data and confirm the interpretation of the results obtained by testing facilities in Hong Kong. By demanding to split the samples the Mainland laboratory is actually contributing to the possibility of error and inaccurate interpretation. It may be that it is the desire for a share of the test fees that is driving their insistence on taking part in the actual testing.

### **Interference with rights of claimants**

**a) Right to choose DNA testing service**

The Government should not compel right of abode claimants to be tested in the Government Laboratory. All claimants should be free to choose a DNA testing service based on an assessment of price, confidentiality, and speed.

DNA tests conducted by private laboratories in Hong Kong and from abroad are accepted as proof of parentage in the courts of Hong Kong. They are used in such cases as proof of paternity, child maintenance disputes, inheritance disputes, and so on. Why do the Security Bureau and Immigration Department consider these laboratories as providing an unacceptable service? Claimants should have the right to submit DNA parentage test reports to the Hong Kong authorities from any accredited source.

**b) Right to a rapid test**

Right of abode claimants are entitled to a rapid test. The procedure proposed by the Government is too long. The actual testing can be completed in about one week but a decision on right of abode is prolonged due to the inefficient examination process caused by splitting the sample between two testing centres. The delay is exacerbated by the large number of tests and the finite capacity of the Government Laboratory.

**c) Right to an accurate test**

All claimants have the right to an accurate test. The DNA testing methodology proposed by the Government severely limits its accuracy. Under the proposed scheme an incomplete set of samples is tested at two separate centres. A great deal of time is then expended comparing and analysing the data to try and piece together a conclusion about the relatedness of individuals. This could be avoided if all the family members were simply tested in one centre. If there were any doubts as to the results obtained, the test could be repeated. There would be no need to scrutinise the results obtained by different laboratories under different conditions. A full report should also be returned to the applicant.

**d) Right to privacy**

All claimants should have the right to privacy. One disturbing feature of the proposals is the fact that the Government Laboratory performs the claimant's genetic test and another Government department assesses the result and makes a decision regarding eligibility for right of abode. This represents a clear conflict of interest. Confining the testing to the Government Laboratory raises the possibility of bias in the final analysis of results.

There are also concerns about the internal security measures adopted by the Security Bureau and Immigration Department. How secure is the DNA information? Will it be used for other unrelated purposes? Will it be destroyed after right of abode has been granted or denied? DNA information held by a private company is rendered worthless as soon as payment for the parentage test is received. In a Government facility, the genetic information retains value as long as the possibility for use elsewhere within the Government bureaucracy exists. Performing the genetic tests at a private laboratory will reduce the level of suspicion in the Government on its motives for collecting and storing genetic information.

We propose an alternative testing strategy where the applicant's DNA samples are collected at a Government centre and assigned a code number before being sent to private laboratories for testing. The DNA profile would then be returned to the Government. In this way, the Government retains only the DNA profile but not the actual DNA sample. The private laboratory retains the DNA sample but has no means of identifying the donor. This is a more secure and efficient method than that suggested by the Government.

**e) Right to appeal**

All claimants should have the right of appeal. There is an apparent lack of transparency in the DNA testing process as described by the Government. Supposing the claimant disagrees with the result? How do they appeal? The present Bill requires samples to be handled entirely by the Government Laboratory with no means of regulation or assessment by an independent body. If the tests were conducted by a private laboratory, it would be easy to verify or refute the findings by conducting another test at another laboratory. We propose that the Government Laboratory acts only as a final arbiter in cases where the results from a private laboratory are in dispute.

**f) Right to refuse**

All claimants should have the right to refuse to take the DNA test. The claimant is under pressure not to refuse to submit to a DNA test as the Immigration Department is permitted to draw a negative conclusion about such a refusal. We feel this is unethical.

**The Government has misinformed the public**

The Government has misinformed the public with inaccurate and confusing data regarding many aspects of the DNA testing of right of abode claimants.

**a) Number of claimants and the capacity of the Government Laboratory**

According to some reports up to 170,000 people born out of wedlock are eligible to claim right of abode (SCMP, 15/7/00). If only 10% of this number actually require genetic testing to prove their relationships, this amounts to 17,000 cases. However, the Government has been consistently unable to provide an accurate estimate of the number of cases expected. The estimated capacity of the Government Laboratory is 3,000 cases per year. Releasing some of the caseload to private laboratories would relieve the Government Laboratory of the testing burden and allow a more speedy resolution of the cases. The Government Laboratory has a fixed capacity — what if the number is much more or much less than expected? The Government Laboratory will be either overwhelmed or underused. The use of private laboratories will provide flexibility to the testing service at no cost to the Government. If more tests are needed another laboratory can be included. If demand declines laboratories can be excluded.

**b) No taxpayer money expended**

We object to the expenditure of taxpayer money to pay for parentage testing. The Government Laboratory was recently expanded and provided with the funds for eight more staff, and associated equipment and facilities. To say that this does not represent a burden to the taxpayer is false (Timothy Tong, pers. comm.; 27/7/00), as providing for right of abode genetic testing cannot be considered as a normal budgetary allowance for either the Security Bureau or the Immigration Department. A decision must have been made to accept the costs of testing and to expand the Government Laboratory appropriately. As a civil service facility this must be construed as an expenditure of public funds and hence a direct cost to the taxpayer.

The very existence of the laboratory is a burden. The number of parentage tests for right of abode claimants will decline rapidly as the outstanding cases are resolved. The costs of equipping and staffing a testing facility are very high. There will come a point when the new facility must either close due to lack of cases or the staff transferred to other duties or made redundant. The high costs of maintaining this facility for a few months or years are unjustified.

**c) Price estimates inaccurate**

The Government Laboratory aims to provide the DNA testing service on a cost recovery basis. However, the price quoted by the Government is false and misleading. Early estimates indicated that the test would cost HK\$1500 in Hong Kong and 1100 RMB in China — a total cost per family (father, mother, one child) of HK\$3470 (SCMP, 30/5/00). A more recent Government estimates the combined parentage tests

for one family at \$4670. This represents an increase of 35% over the price quoted originally. The current price for such tests in the private sector in Hong Kong is about \$4000. This indicates that the Government Laboratory's cost estimates for testing are very poor and that they exceed those of the private sector. In addition, if private laboratories are allowed to test a large number of samples the price could be reduced further.

**d) Few private laboratories are accredited to perform parentage testing**

One of the reasons the Security Bureau gave for not allowing private testing was that few laboratories are accredited to perform DNA parentage testing. Accreditation is not a legal requirement in Hong Kong. Despite this, several laboratories in Hong Kong have received or are currently in the process of applying for accreditation for parentage testing. In fact, to my knowledge, the Government Laboratory is not accredited for parentage testing. The Government Laboratory is accredited for forensic DNA analysis, which is substantially different from accreditation for parentage testing. The critical feature of parentage testing is the statistical analysis of data from 2 generations (parent/child). This is not usually required during forensic DNA analysis.

**e) Private laboratories have poor security**

The Security Bureau has stated that it does not wish to use private laboratories for parentage testing because of poor security. This is incorrect and offensive. The accreditation process requires appropriate security measures to be in place and consistently enforced. Furthermore, data protection and privacy ordinances exist in Hong Kong and can be enforced when necessary. In contrast, recent news reports from China indicate that serious problems exist at all levels of Government that cast doubt on the ability of the Mainland partners in this project to protect themselves from inappropriate influences.

**f) It is normal for Governments to perform parentage testing**

As far as I am aware, other Governments around the world do not provide genetic testing services to everyone applying for citizenship or right of abode. In all other countries, it is the job of the applicant to demonstrate that they are eligible, even to the extent of paying for their own genetic tests at a private laboratory. Other countries, for example the United States and Canada, have full confidence in the ability and security of private DNA testing companies. The insistence of the Security Bureau and Immigration Department to participate in the genetic testing of right of abode claimants is unique and unwarranted.

## **Summary**

The requirement of the Immigration (Amendment) Bill 2000 for all genetic testing in right of abode cases to be handled exclusively by the Government Laboratory is wrong. It is:

- Scientifically unsound
  - Opens the door to legal challenges
- Allows Mainland interference
- Interferes with human rights
- Based on Government misinformation
- Contrary to Chief Executive's policy statement that Hong Kong should aim to be a high technology hub for Asia;
- Damaging to the Hong Kong high technology sector
- Damaging to established parentage testing businesses

## **Suggestions**

- Allow private companies to compete for some of the genetic testing cases arising from the right of abode issue;
- The Government Laboratory and the Mainland authorities should not be permitted to perform DNA testing;
- Maintain Government control by establishing a system of laboratory accreditation;
- Establish central sample collection centre to encode and distribute applicant's samples to private laboratories for testing;
- Help establish Mainland sample collection centre and endorse a panel of Mainland experts who will verify the conclusions of the parentage tests;
- Use Government Laboratory only as final arbiter of disputed cases.

## **Advantages of private testing over Government Laboratory testing:**

- Faster
- Cheaper
- Less suspicion
- Aids biotech and high tech sector development
- Good for Hong Kong

The role of the Government in regard to parentage testing in the right of abode issue is to provide a good infrastructure for private DNA testing.