EUROPEAN DNA PROFILING GROUP (EDNAP) MEETING

PORTO - 9 NOVEMBER 2002

Host: Antonio Amorim/Leonor Gusmao
Chairman: Niels Morling

A list of participants is attached at Annex 1.

1. Welcome
Antonio Amorim welcomed members to Porto.

2. Update on EDNAP exercises

2.1 mtDNA from head hair samples - 1 Peter Gill (Gillian Tully)
The draft dated 8 Nov 2002 of the EDNAP mtDNA paper concerning hairs from an individual with known mtDNA heteroplasmia was distributed.
Members have one week to comment before the manuscript is submitted.

2.2 mtDNA from head hair samples - 2 Peter Gill (Gillian Tully)
Results have been obtained from 8 of 11 participating labs. A C-T transition was observed at position 16,172 in one section of each of two hairs. An A/G heteroplasmy was observed at position 73 in one section of one hair (awaiting results from other sections). An apparent contaminant was seen with 1 hair (2 labs, different interpretation and different mixed bases).
Due to Gillian's leave, Copenhagen will take over the last work. Due to unforeseen events, Rome is presently unable to perform the typing. Innsbruck will type these hairs.
Participants are asked to submit data as soon as possible.

2.3 Analysis of mixtures Peter Gill
The data and conclusions were recapitulated. It was decided to close the project without publication because the scientific impact and the practical use of the work would be limited.

2.4 Degraded DNA Peter Schneider
A draft of a manuscript by Klaus Bender et al on the preparation of partly degraded DNA was circulated.
A first draft of a manuscript on STR typing results on degraded DNA by Peter Schneider et al and sheets with the data were also circulated. Peter Schneider will update the manuscript on STR typing according to the discussed items. Members will receive the update with email within a week.
Participants are asked to send their comments to Peter Schneider within 14 days after the receipt of the revised version of the manuscript.

2.5 Short STRs on telogen hairs Hermann Schmitter
Hermann Schmitter presented an overview of the results of the work in Wiesbaden. Hermann Scmitter invited members to come to Wiesbaden to study the technique.

2.6 EMPOP Walther Parson

Walther Parson gave an update on EMOP. A total of 15 out of 18 laboratories have submitted results of proficiency testing. Incorrect results – mostly due to clerical errors - were encountered. The need for electronic submission of data was recognised and it was decided that electropherograms must be submitted for all data. It has been discussed if the data should be flagged for length and point heteroplasmy in the database. However, the practical feasibility needs too be evaluated. Decisions will follow depending on further experience with actual data. The need for quality measures was recognised. EMPOP is currently exploring the use of Phred and phylogenic analyses for quality assessment. The need for acceptance/rejection rules and relevant responses to participants having problems in proficiency testing or in case of submitted sequences of unacceptable quality was recognised. The EMPOP working group (Birmingham, Copenhagen, Innsbruck, Mainz, and Santiago) will offer assistance in these cases.

Although EMOP includes mtDNA sequences from 941 individuals from 4 populations, it was decided to wait with the opening of EMPOP until a number of problems were solved.

Innsbruck has established a high throughput facility for mtDNA sequencing and offers assistance to laboratories that need training in a typing facility.

The need for regular mtDNA typing proficiency testing for accredited laboratories and possible other laboratories was discussed but no solution was offered.

2.7 FSS-SNPs Peter Gill

An inter-laboratory study was conducted to assess the reproducibility of SNP determination based on the Universal Reporter Primer Principal. The study involved co-amplification of 16 biallelic SNP markers plus an amelogenin-based sex test and detection by electrophoresis. Laboratories from 7 ENSFI/EDNAP laboratories were involved in the study and each was requested to analyse the same 8 DNA samples using a supplied protocol and supplied reagents. Electrophoregrams were returned to the originating laboratory for assessment and scoring. Se Annex 2 for details.

2.8 Y chromosome SNPs – Santiago II Angel Carracedo

Santiago has circulated information on 11 Y chromosome SNPs together with two SNP typed samples (control samples) and two untyped samples (test samples). Results from 7 labs and population data from three labs have been received. The results were concordant. Unexpected extra reactions were observed in P25 and M18 reflecting duplications on the Y chromosome.

Mainz will send primers for Snapshot based SNP typing of five of the Y SNPs to Brussels, Rijswijk and Wiesbaden. Mainz will email primer sequences for SRY8299.

Participants are asked to send the results by end of February 2002.

2.9 ICEMS

Walther Parson introduced ICEMS (Ion-Pair Reversed-Phase Chromatography Electrospray Ionization Mass Spectrometry for nucleic acids = IP RP HPLC ESI MS) as a SNP typing technology. The samples of the collaborative exercise on Y-SNP markers (Santiago II) were typed with this technology in the Innsbruck laboratory. It was pointed out that the method was amenable for high throughput analysis of SNP markers and relatively insensitive to environmental factors, such as additional proteins or other ions in the amplification product. Analyses of the results indicated that Y-SNP 92R7 is duplicated and that the two copies are oriented in opposite directions. One copy includes the A/G SNP, while the other copy includes a monomorphic A at the corresponding position. Two signals, A and G, are expected for the G variant, whereas only one signal is expected for the A variant.

2.10 Population database compilation Denise Syndercombe Court

Due to unforeseen events, it was not possible to present the data.

3. Updates from other groups

3.1 ENFSI Peter Gill/Rich. Scheithauer

The last meeting of the ENFSI DNA Working Group was held in March 2002 in Brussels. Analysis of SGM Plus STR data from 24 European laboratories including more than 5,000 individuals is being published and will be place on the internet in a way so that it can be used for evaluation of match probabilities.

4.2 Interpol Richard Scheithauer

The 8TH MEETING OF THE INTERPOL DNA MONITORING EXPERT GROUP (DNA MEG) was held in Johannesburg, South Africa, 21 to 24 April 2002. The 3rd International DNA Users' Conference for Investigative Officers will be held in Lyon November 2003. Contributions from Police/DNA are welcome. The Interpol Handbook on DNA Data Exchange and Practices in English is found on the web site www.interpol.int; the French and German versions have been completed and printed.

The DNA Database Pilot Project at Interpol Headquarters is CODIS based (Barry Brown is no longer project manager of CODIS). The large number of profiles requested (250,000 crime scenes) caused concern. France, USA, UK, Australia, South Africa, Austria, Belgium Denmark, Germany, The Netherlands and Switzerland take part in the project.

The 9th Interpol DNA MEG January 2003 will be held at Interpol's Headquarters in Lyon, France. The 10th Interpol DNA MEG Meeting Spring 2003 will be held at the National Crime and Operations Faculty, UK.

4.3 Europol PCWG

In the EU document:

COUNCIL OF THE EUROPEAN UNION, Brussels, 27 June 2002, 10394/02, ENFOPOL 99, COMIX 426, NOTE from: incoming Danish Presidency to: Police Cooperation Working Party, No. prev. doc. : OJ C 19, 23.1.1999, p.1, Subject: Electronic exchange of information between law enforcement authorities of the Member States:

the following statement is found:

… 'When relevant for a specific investigation or prosecution a Member State in accordance with national law, should be able to ask other Member States by electronic means if information is available, e.g. concerning criminal records, finger prints or DNA profiles (hit/no-hit system). The purpose of the Danish initiative is to facilitate the exchange of this kind of information.' ……

…. 'The proposal should be seen as a first step towards the establishment of a central European criminal record, including records on fingerprints and DNA profiles (see OJ C 187, 3.7.2001, p.1).'

5. New exercises

5.1 Y chromosome SNPs – Santiago II (cont) Angel Carracedo

Members should assign haplogroups of the two test samples. Laboratories are free to choose SNPs and methods. Santiago will send the haplogroup ID of the two control samples. Members that need more sample material should contact Santiago.

Santiago will send information on a number of Y SNPs suggested for identification and key papers including the Y Chromosome Consortium (YCC) recommendations as pdf-files to members.

6. Funding

6.1 EU - funding Peter Schneider

Mainz, Copenhagen, London and Santiago hope to get a EU grant for a project, 'SNPforID - High throughput analysis of SNPs for the forensic identification of persons', see annex 3. The conditions for the grant did not allow support for a large-number-of-labs-collaboration nor a network collaboration. Peter Schneider stressed the intention of collaboration with EDNAP laboratories.

7. Next meeting

Bertrand Ludes invited members to have the next EDNAP meeting 10 May 2003 in Strasbourg.

8. Any other business

There was no other business and the meeting closed with sincere thanks to Antonio Amorim and Leonor Gusmao.