

EUROPEAN DNA PROFILING GROUP (EDNAP) MEETING

Lisbon, Portugal

22 April 2009

Host: Sandra Santos

Chairman: Niels Morling.

A list of participants is attached.

Welcome

Sandra Santos

Sandra Santos welcomed members to Lisboa.

Update on exercises and other activities

mRNA

Cordula Haas

A total of 15 laboratories participated in the exercise of identifying blood by means of mRNA investigations of PBGD (porpho bilinogen deaminase), SPTB (beta-spectrin), and HBB (haemoglobin-beta). The exercise was very well organised, and very promising results were obtained by all laboratories (presentation attached). Cordula Haas will write a draft for a publication of the results.

Members agreed to continue the work with standardization of the mRNA investigations. The next collaborative exercise will most likely focus on quantification of mRNA in order to standardize the amount of mRNA in the reaction (1. possibly by ribo-green fluorescence detection), 2. possibly extraction of both mRNA and DNA from the same material (co- or dual-extraction – Qiagen, Ambion or similar), 3. possibly extend the investigations with one more marker (e.g. HBA, CDC3G or Anchorin-1), 4. possibly include one more tissue fluid, e.g. standardized preparation of saliva. Cordula Haas will prepare a suggestion.

EMPOP

Walther Parson

Walther Parson gave an update on collaborative mtDNA studies with the Italian speaking ISFG working group. The data were collated and analysed by Chiara Turchi (Ancona) before an EMPOP evaluation was performed (Turchi et al. 2008). A similar study is currently underway with the Spanish and Portuguese Speaking working group represented by Lourdes Prieto. EMPOP further continues to collaborate with individual laboratories, such as a recent study on Argentinean populations together with Daniel Corach and Cecilia Bobillo (paper in submission). The main collaborator is the Armed Forces DNA Identification Laboratory, which provides worldwide population data for evaluation to EMPOP.

EMPOP has been invited to review data of mtDNA population study submissions to *Forensic Science International: Genetics*. Similar action is planned with the *International Journal of Legal Medicine*.

The ISFG is officially endorsing the EMPOP project (www.isfg.org/Links).

Turchi C, Buscemi L, Previderè C, Grigniani P, Brandstätter A, Achilli A, Parson W, Tagliabracci A, Ge.F.I.Group (2008) Italian mitochondrial DNA database: results of a collaborative exercise and proficiency testing. *Int J Legal Med* 122: 199-204.

Collaborative exercise on AB MiniFiler
A manuscript is in preparation.

Peter Gill/Niels Morling

Updates from other groups

ENFSI

Ingo Bastisch

Ingo Bastisch reported on the activities of the various subgroups (presentation attached).

Australia

John Scheffer

John Scheffer gave an update on the work in Melbourne and Australia (presentation attached), and presented work done on tracking possible PCR contamination (presentation attached).

University of Central Florida

Jack Ballantyne

Jack Ballantyne presented the research activities of the group (presentation attached).

NIST

John Butler

John Butler presented the activities of NIST (presentation attached).

Interpol

Richard Scheithauer

Richard Scheithauer presented an update from Interpol.

The last meeting of the Interpol Monitoring Expert Group was held in New Delhi April 6-7 2009, combined with the 1st Indian DNA Conference April 8-9 2009.

The major subjects were:

- 1) Organisation of the 6th International DNA Users' Conference to be held at the Interpol Headquarters, 25 to 27 November 2009 (the conference is open to the EDNAP members; previous conferences see <http://www.interpol.int/Public/Forensic/dna/dnaconf.asp>).
- 2) To be presented at the conference: Interpol Global DNA Survey on the use of DNA / DNA Databases in the 187 member states.
- 3) To be presented at the conference: Update on Interpol's DNA Gateway and Database and its use by the member states.
- 4) To be presented at the conference: Presentation of the 2nd edition of the INTERPOL Handbook on DNA Data Exchange and Practice.
- 5) To be presented at the conference: Training DVD on International DNA Data Exchange (which is a follow up of the 1st Interpol Training DVD on Crime Scene Investigation).

If somebody from your country would like to attend, please contact Richard Scheithauer (richard.scheithauer@i-med.ac.at) or the contact person in Interpol (w.schuller@interpol.int).

Other topics: Situation in India, update of the recommended markers ISSOL in concordance with ENFSI, CODIS export function operational nearly all over the world, facilitating comfortable use of the Interpol DNA database, DVI operation in the Philippines in co-operation with ICMP.

SNPforID GenPlex exercise

Niels Morling

At the end of March 2009, DNA from 10 known controls and 3 challenging samples with degraded DNA, primers and other critical reagents was sent from Copenhagen to 14 laboratories. Copenhagen will collate the results (presentation attached).

ISFG DNA Commission

Niels Morling

Niels Morling gave a short summary of the present state of the work of the ISFG DNA Commission on DNA of limited quantity and/or quality. Niels Morling presented a method to estimate drop-out probabilities (FSI:Genetics, doi:10.1016/j.fsigen.2009.02.002). The EDNAP members unanimously supported that the ISFG DNA Commission, EDNAP, ENFSI and others develop freeware IT-solutions that can assist in the interpretation of complicated

DNA results, including the use of drop-out and drop-in probabilities for the calculation of likelihood ratios. The need for systematic educational activities concerning interpretation of complicated DNA profiles was stressed by members.

GeneMapper ID-X mixture module

Peter Gill

Peter Gill briefly presented the way GeneMapper ID-X evaluates mixtures by means of peak heights. Peter Gill demonstrated a tool for de-convolution of DNA-profiles from mixtures of DNA. The tool is developed in Excel and operates in a similar way as Genemapper ID-X. The tool will be circulated to EDNAP members as soon as possible.

EDNAP web site update (www.isfg.org/EDNAP)

Peter Schneider

Minutes from previous meetings will be posted on the web site.

Any other business

Attention was drawn to an article in press, 'Budowle et al. Mixture Interpretation: Defining the Relevant Features for Guidelines for the Assessment of Mixed DNA Profiles in Forensic Casework.' J Forensic Sci, in press, doi: 10.1111/j.1556-4029.2009.01046.x (attached). Only few members had had the opportunity to read the article.

John Scheffer presented the experiences from the bushfires 2009 in Australia (presentation attached).

Next meeting

The next EDNAP meeting will be held on 20 October 2009 in Edinburgh in conjunction with the next ENFSI DNA Working Group Meeting 21-22 October 2009.

Closing of the meeting

The meeting closed with sincere thanks to Sandra Santos and her co-workers.

Attachments

- List of participants
- Presentations by
 - Walther Parson: Summary of EMPOP activities
 - John Scheffer: Summary of activities
 - John Scheffer: PCR contamination?
 - John Scheffer: The bushfires 2009
 - John Butler: Update on NIST projects
 - Ingo Bastisch: Summary of ENFSI activities
 - Jack Ballantyne: Update on research at the National Center for Forensic Sciences