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Our reference: GEDNAP 44 and 45

GEDNAP 44 and 45

Dear colleague,

Please find enclosed the samples for the GEDNAP Proficiency Tests 44 and 45, and some important explanations, instructions and conditions. Please read them carefully. This information will also be provided on the GEDNAP website (http://www.gednap.de) in due course.

Furthermore, a letter is enclosed which is from the Stain Commission concerning the 'Rules for publicising the participation in the GEDNAP Proficiency Tests' and the associated declaration to be signed by the authorised participant. Please return this document stamped and signed by an authorized person until December 04, 2012. For further details see para V and VII.

If you have any queries or problems, please do not hesitate to contact us.

Sincerely

Dr. rer. nat. C. Hohoff
Executive Director of the
GEDNAP Proficiency Tests

Prof. Dr. med. B. Brinkmann
Chairman of the GEDNAP
Proficiency Testing Program

I. Notes on the Samples:

The proficiency tests are composed of three reference samples and four stains: i.e.,

GEDNAP 44: Persons A – C; Stains 1 – 4
GEDNAP 45: Persons A – C; Stains 1 – 4

Please bear in mind that any of the stains could consist of a mixture of up to 3 different persons, and that the stain material might consist of saliva, blood or sperm (as well as mixtures of these materials). In principle, the stains in these Proficiency Tests could simulate any stains encountered in routine casework.

N.B.: Each participating laboratory must retain some material from every stain to allow a reanalysis if necessary.

II. DNA loci that may be included in the certificate(s) for GEDNAP 44 and 45:

1. autosomal core STRs und Amelogenin *

locus	allele range*
TH01	2-14.3
VWA	9-25
FGA	13-34.2, 41.2-52.2
D21S11	23-39
ACTBP2	3.2-43, 48-50
D3S1358	8-21
D8S1179	6-20
D18S51	6-28
D16S539	3-17

locus	allele range *
D2S1338	9-29
D19S433	4.2-19.2
D12S391	13-28
D2S441	7-18
D10S1248	7-20
D22S1045	6-21
D1S1656	8-21.3
Amelogenin	X/X; X/Y

2. supplementary autosomal STRs *

locus	allele range *
TPOX	3-17
CSF1PO	4-17
D5S818	5-19
D13S317	4-18
D7S820	4-17
Penta D	1.2-18
Penta E	4-25
D6S1043	6-26

3. Y-STRs *

locus	allele range *
DYS19	8-20
DYS385	6-29
DYS389I	8-18
DYS389II	23-36
DYS390	16-30
DYS391	4-17
DYS392	3-21
DYS393	6-19

locus	allele range *
DYS437	9-19
DYS438	5-17
DYS439	4-18
DYS448	13-25
DYS456	10-24
DYS458	9-25
DYS635	14-29
GATAH4	7-19

locus	allele range *
DYS576	10-24
DYS481	16-33
DYS549	6-18
DYS533	6-18
DYS570	9-25
DYS643	5-18

4. additional autosomal STRs # *

locus	allele range *
D2S1360	18-33
D3S1744	12-22
D4S2366	8-16
D5S2500	8-19
D6S474	12-20

locus	allele range *
D7S1517	15-29
D8S1132	11.1-28
D10S2325	5-20
D21S2055	15.1-40

5. X-STRs [#] [*]

locus	allele range *
DXS8378	8-16
HPRTB	8-18
DXS7423	12-19
DXS7132	9-18
DXS10134	27-45.3
DXS10074	3-22

locus	allele range *
DXS10101	23-36
DXS10135	12-40.2
DXS10079	13-26
DXS10103	14-22
DXS10148	12.3-14.3, 17-32, 37.1-39.1
DXS10146	23-36.2, 38.2-47.2

Notes on the tables 1 - 5

*: the numbers indicate the range in which the classification of alleles must be made. For further explanations see para **V**.

#: the certification of these markers is not carried out in conjunction with the Stain Commission

III. Biostatistical calculation of mixed stains

As in previous years, it will be possible statistically to evaluate a mixed-person stain. The question to be answered is whether one of the three reference persons (Person A – Person C) in the current proficiency test should be considered a potential donor to the mixed stain. Please use the two methods that are recommended by the German Stain Commission (P. Schneider et al. (2009) Int J Legal Med 123:1–5), and please use only the allele frequencies that will be available shortly on the GEDNAP website (http://www.gednap.de) along with further information. We will evaluate and certify only those calculations based on the 7 European Standard Loci ("Systems") (ESS/ISS, i.e., TH01, VWA, FGA, D21S11, D3S1358, D8S1179 and D18S51) or based on the 8 loci of the German DNA database (the 7 ESS loci listed above plus ACTBP2 (=SE33)). The calculation steps must be documented. The employed software must be named. Please note that the calculations have to be executed without the correction factor 'theta' (i.e. with a theta value of zero).

IV. Instructions for submitting the results

- To submit your results (stain characterization, extraction details, genotyping, mixed-person stain calculation), please exclusively use the web forms on the GEDNAP homepage (http://www.gednap.de) that will be activated at the latest in **October 2012.** The submission option will be deactivated on the deadline of **4th December 2012 at**

23:59 CET. Detailed information and your login and password will be, or have already been, provided in separate emails.

- After submitting your results electronically we request you send us a signed and stamped printed copy (the website allows you to create a pdf file), which you send us by post together with your original laboratory data. The deadline is the **4th December 2012** (date of postmark).

- Also for the submission of your mtDNA results (reference samples and single source stains) please use the form on the GEDNAP homepage (http://www.gednap.de) that will be activated in **October 2012**. As in previous years, you are requested to score the differences of the sequences of Persons A-C to the revised Cambridge Reference Sequence (rCRS). The minor component at a heteroplasmic position should only be indicated if it has a proportion of at least 20%. If length heteroplasmy was detected, please indicate it in the field 'remarks'.

V. General Information

- Please enter only numerical allele values in the web-based results' forms; we would consider any other character (e.g., OL, F, ?) as an error, except for < and > (see below).

- 'Off-category' alleles, i.e. those alleles that are smaller than the smallest allele or longer than the longest allele in the STR systems listed in table 1 - 5, can be reported using the "smaller than" (<) or "greater than" (>) signs relative to the shortest or longest allele. Example: allele 18 at TPOX can be given as '>17' or as '18' – both would be considered correct. Otherwise, please use the convention for nomenclature as laid down in the ISFG (formerly ISFH) guidelines. Please note that allele numbers should be given with a 1bp precision (this does not however mean that the example allele above should be scored as *18.0*). Allele designations not adhering to these instructions will be considered erroneous.

- For evaluation and certification it is obligatory to include original laboratory data, i.e., copies of the electropherograms of the samples **and** the allelic ladders. The allele scoring must be readily visible and unambiguous, and amplicon lengths and peak heights must be readable. The printed copies should be clearly marked with the Proficiency Test series (GEDNAP 44 or GEDNAP 45, respectively), with the sample

name and with its laboratory code. Printed sequence electropherograms should be labelled likewise, and the evaluated range must clearly be indicated by the nucleotide positions. Furthermore, the steps from the electropherogram to the scoring as deviation(s) from the rCRS must be documented (among other things by mentioning the software for generating the consensus sequence from sequencing both strands). Examples of a GeneScan, a Genotyper and/or a GeneMapper analysis as well as an exemplary print-out of a sequencing electropherogram with proper labels are available upon request.

<u>If the original laboratory data are not included in the submission, the results will not be evaluated and subsequently a certificate will not be issued.</u>

- If you wish to send your original data in digital form (e.g. CD-ROM, e-mail attachment) please ensure that the files are clearly labelled and comprehensible.

- Certificates of participation will be issued for those modules for which you have registered (stain characterisation, common and supplementary STR loci, Y-STRs, sequence analysis of the mtDNA control region, biostatistics of mixed-person stains, additional autosomal STRs and X-STRs, the last two modules being evaluated and certified without involvement by the Stains Commission).

- Certificates of participation can be issued only in the name of the Institute which has actually undertaken the analysis. An analysis by a third party is not permissible. In accordance to the Stain Commission ruling, all participants have to sign a self-declaration stating that their GEDNAP certification may not be used by third parties, for example for advertising purposes. If this self-declaration has been submitted in the previous year it can be omitted this year. If the self-declaration has not been received by us until 4th December 2012, we will neither evaluate the results nor subsequently issue the certificates.

- The categories of participants are defined as in the previous years. Details are given on the GEDNAP website (http://www.gednap.de).

VI. Stain Workshop in Halle/Saale (Germany)

The results of the Proficiency Tests GEDNAP 44 and 45 will be presented during the 33rd Stain Workshop in Halle/Saale (Germany; February 21 - 23, 2013), organized by the Institute of Legal Medicine Halle/Saale (Prof. Dr. med. R. Lessig and Dr. rer. nat. U.-D. Immel) in conjunction with the German Society of Legal Medicine and the Stain Commission (http://www.r-km.de/spurenworkshop2013). Oral contributions (also in English) are encouraged.

VII. Fulfilment of Conditions

The executive of the proficiency tests, who is appointed by the Stain Commission, agrees to provide test samples, evaluate submitted results and to issue certificates if the participating laboratory meets the above conditions and furthermore pays the current participation fee, signs the enclosed self-declaration by an authorized member of the participating laboratory and sends it back to the executive such that it arrives at his address. If any of these requirements is not fulfilled, then the submitted results will not be evaluated and a certificate will not be issued.