

Working with Experts

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1

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2

Why use an expert?

Why and How?

How do I get the funding needed?

3

What can an expert bring to my case?

**Item 2**

The partial YSTR DNA profile obtained from fraction 1 of the external genitalia swabs (Item 2) is being interpreted as a mixture of 2 male contributors. The partial major YSTR DNA profile is consistent with the YSTR DNA profile obtained from the defendant (Item 3). The minor YSTR DNA profile is inconclusive due to complexity and/or insufficient quality of recovered DNA. Additional YSTR DNA was present that cannot be accounted for by the standard(s) submitted.

The YSTR DNA profile developed from fraction 1 of the external genitalia swabs (Item 2) is consistent with the YSTR DNA profile developed from the defendant. Therefore, the defendant and any male paternal relatives cannot be excluded as potential DNA donors to this sample. Utilizing the YSTR Database, this YSTR profile has been observed as follows:

- 0 in 1203 Caucasian males (Applying the 95% upper confidence interval results in approximately 1 in every 434 male individuals).
- 0 in 1253 African American males (Applying the 95% upper confidence interval results in approximately 1 in every 453 male individuals)

4

### What can an expert bring to my case?

- Assistance with discovery
- Vetting the state's expert
- Understanding the methods used
- Understanding the testing in this case
- Alternative interpretations
- Lab quality measures

5

### What can an expert bring to my case?

- Assistance with discovery**  
Have you gotten complete discovery? What else is needed and what is it called and why hasn't it been provided?
- Vetting the State's Expert**  
Do you know the analyst's qualifications? Are they certified? Proficiency tested? Do they have any prior instances of contamination/failed exams/unexpected results?
- Understanding the methods used**  
Do you understand how the swab was tested? Was any other testing done? What testing could have been done? Did you read and understand the lab procedures that were in place? Have the procedures changed since then? Why?
- Understanding the testing in this case**  
What do all the conclusions mean? What is meant by partial profile? Why was Y-STR analysis done? How partial was it? How much DNA is present? Could it be someone else's profile? Was there any subjectivity in the analyst's interpretation? Why is the statistic expressed in two different ways?
- Alternative interpretations**  
Are there other scientifically valid interpretations of this evidence? Did the reviewer have any disagreements with the analysis? Have there been multiple versions of the report drafted and what changed?
- Lab quality measures**  
What instrument was used? How has it been maintained? How do we know it's working properly? What chemicals were used? Are they expired? What measures are in place to prevent contamination between samples? To prevent contamination from the analyst?

6

### Rule 702. Testimony by experts

(a) If scientific, technical or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion, or otherwise, if all of the following apply:

- (1) The testimony is based upon sufficient facts or data.
- (2) The testimony is the product of reliable principles and methods.
- (3) The witness has applied the principles and methods reliably to the facts of the case

7

### What can an expert bring to my case?

**Item 1a (135 individual bags containing a white crystalline substance)**

Twenty-five plastic bags were individually analyzed and found to contain:

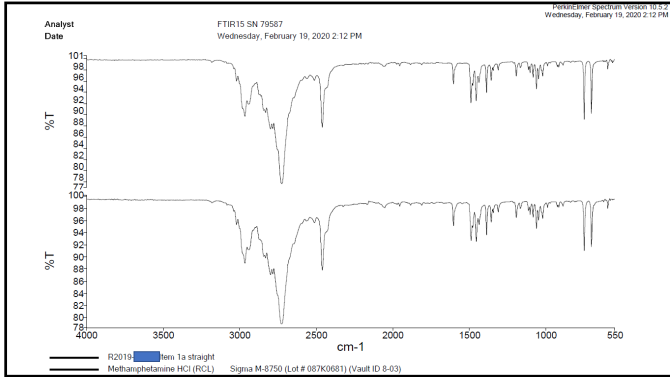
- Methamphetamine
- Net weight of material – 1.980001 (+/-0.039) grams.
- One hundred ten plastic bags – No chemical analysis.
- Extrapolated weight (not individually weighed) – 29 grams.

This material was analyzed with a hypergeometric sampling plan that demonstrates with 95% confidence that at least 90% of the material contains the identified substance.

Analysis of the above items was conducted using the following methods: color test, IR.

Measurement uncertainty of reported net weights is at a 99.7% level of confidence.

8



9

### What can an expert bring to my case?

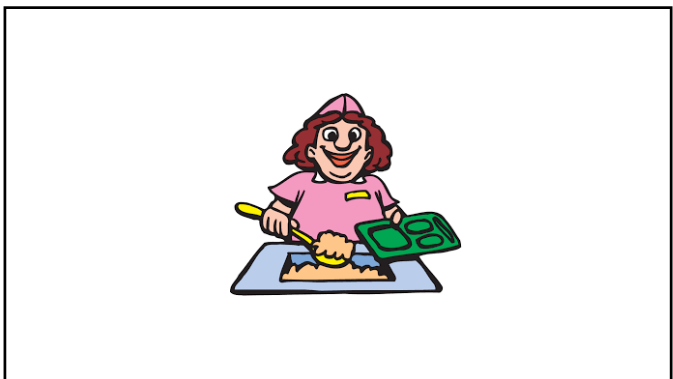
- Assistance with discovery
- Vetting the state's expert
- Understanding the methods used
- Understanding the identification and weighing of the substance
- Alternative interpretations
- Lab quality measures

10

### What can an expert bring to my case?

- Assistance with discovery**  
Have you gotten complete discovery? What else is needed and what is it called and why hasn't it been provided?
- Vetting the State's Expert**  
Do you know the analyst's qualifications? Are they certified? Proficiency tested? Do they have any prior instances of contamination/failed exams/unexpected results?
- Understanding the methods used**  
Do you understand how samples were tested? Was any other testing done? What testing could have been done? Did you read and understand the lab procedures that were in place? Have the procedures changed since then? Why?
- Understanding the testing in this case**  
Was there any subjectivity in the analyst's interpretation? Why weren't all items tested? Was that a valid method in this case?
- Alternative interpretations**  
Are there other scientifically valid interpretations of this evidence? Did the reviewer have any disagreements with the analysis? Have there been multiple versions of the report drafted and what changed?
- Lab quality measures**  
What instrument was used? How has it been maintained? How do we know it's working properly? What chemicals were used? Are they expired? What measures are in place to prevent contamination between samples? To prevent contamination from the analyst?

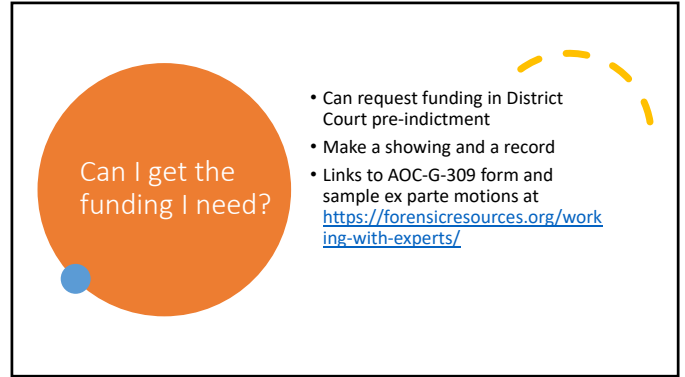
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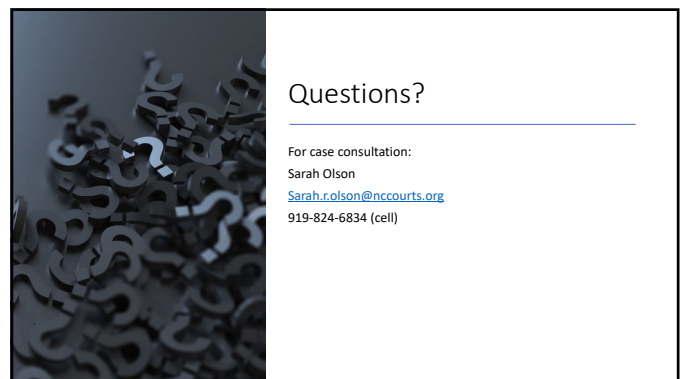
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14



15



16