## B145 Comparison of Modern Techniques for Amylase Screening

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After attending this presentation, attendees will better understand the current available methods for presumptive amylase screening including a comparison of the ease of use, sample consumption, interpretation of each method. Maybe this presentation can help a laboratory decide which method to validate, especially if resources are limited.

Literature has somewhat detailed the average amount of alpha- amylase in human saliva, though variable, but is lacking the same type of sensitivity/limit of detection levels that are available for semen and blood presumptive screening tests. This presentation will impact the forensic community and/or humanity by demonstrating the side by side sensitivity of Phadebas, starch-iodine and SaliGae® through the use of a human alpha-amylase standard from Sigma for comparative value while also incorporating additional issues like ease of interpretation, sample consumption and cost.

Amylase is a component found in relatively high concentrations in human saliva, and is therefore used as the basis of body fluid screening for the possible presence of saliva in casework samples.

The current available methods for the screening of amylase in a forensic application are growing in number, but not necessarily in popularity. The analyst must often decide whether a prescreening method would be worth the consumption of sample that could be applied for DNA analysis methods. Other obstacles in presumptive amylase testing include the difficulties in interpreting the color change based tests, sensitivity and specificity of the method as well as the high level of variability not only between people, but within each person.

Validation of the SaliGae® presumptive test for saliva encompassed not only the validation of the SaliGae® method including sensitivity and specificity - but also a side by side comparison to two other widely used amylase presumptive tests used in forensic serology: Phadebas and starch-iodine tests. An addition to the study will be a direct determination of a limit of detection for each test in terms of units of activity based on the purchase of a human alpha-amylase standard from Sigma instead of the normal 1:10 or 1:100 sensitivity level made from dilutions of an unknown amount of amylase present in a saliva sample.

In summation, the study plans to evaluate and compare the ease of utility, sample consumption, casework application, interpretational issues as well as cost effectiveness of the each of the above methods for amylase screening.

**SaliGae, Presumptive, Amylase**

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