

SER: Saliva – SALIgAE Test for Amylase

Principle

The SALIgAE® test is used to indicate the possible presence of saliva. A small volume of sample is added to a test vial that contains a colorless solution. If saliva is present in the specimen, the colorless solution will turn yellow. If saliva is not present in the sample or too dilute to detect, the solution will remain colorless.

This test is based upon the presence of amylase, an enzyme present in high concentrations in human saliva. Amylase is also present in other body fluids such as semen, vaginal secretions, and urine at lower levels. The manufacturer (Abacus Diagnostics) has not disclosed the reaction mechanism of the SALIgAE® test.

Equipment and supplies

The following equipment is used for this procedure:

- SALIgAE® test kit (Store at 5°C ± 3°C until use.)
 - pipette
 - pipette tips
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Quality control

Each new lot of SALIgAE® kits must be quality control tested with the following:

- a positive control (known saliva)
- a negative control – TE Buffer (30 µL)

If problems are found, the lot will not be used for casework.

A record of the quality check for new lot numbers is kept in the *Quality Control Log Book* located in the Biology Laboratory.

Continued on next page

SER: Saliva – SALIgAE Test for Amylase, Continued

Sample preparation

Prepare samples for analysis using the following procedure:

Step	Action
1	Place the stain cutting (approximately 5 mm x 5mm) or entire swab into a sterile microcentrifuge tube.
2	Add 300 µL of TE Buffer and incubate at room temperature for 30-60 minutes on the ThermoMixer.
3	Transfer the substrate to a spin basket, place the spin basket into the original tube, and centrifuge for 5 minutes to form a cellular pellet. This procedure uses the resulting supernatant. As needed, the supernatant can be diluted with TE Buffer if it is a color that could affect the ability to interpret the results (e.g., yellow or dark).

Procedure

The SALIgAE® test is performed using the following procedure.

Step	Action
1	While the substrates are incubating, remove the test vials from the refrigerator and allow them to warm to room temperature. Remove bubbles from the test vials by gently tapping them.
2	Label each vial with the sample name.
3	Add 30 µL of supernatant or control to the appropriate vial. If the supernatant was diluted, add the entire dilution to the appropriate vial. Gently mix the solution in the vial.
4	Record the result at 10 minutes.

Results

If the colorless liquid in the test vial turns yellow within ten minutes, the test result is positive.

If the colorless liquid in the test vial does not turn yellow within ten minutes, the test result is negative.

Continued on next page

SER: Saliva – SALIgAE Test for Amylase, Continued, Continued

Interpretation

This is a test for the presence of amylase. Amylase levels in saliva are reported to be much higher than amylase levels in other body fluids. Perspiration, breast milk, urine, semen, and feces have been reported to contain amylase. Since amylase is not unique to saliva, this test is not a confirmatory test for saliva.

A yellow color change in the test solution indicates the possible presence of saliva. The extent of the color change may be used as a guide for selecting samples for DNA analysis.

The absence of a color change indicates that no amylase is present or it is below the limit of detection of the test. Samples exhibiting no color change may still be suitable for further genetic testing.

NOTE: Mixtures of body fluids can have an additive effect on the levels of amylase present and some people have much higher levels of amylase in their body fluids than others.
