soleris®

Staphylococcus aureus Vial

Product Number: (S2-SA)

Pictured: Soleris® vial uninoculated (left) and inoculated vial (right).

Introduction

The *Staphylococcus aureus* (S2-SA) vial is a screening vial specifically for *Staphylococcus aureus*. The vial has an assay time of 22 hours for most applications. The vial contains a selective medium and an antibiotic supplement is added. This vial utilizes the CO_2 mechanism for detection. As organisms grow in the broth medium, the carbon dioxide (CO_2) produced diffuses through a membrane layer into a soft agar plug containing a dye indicator. The membrane layer also serves as a barrier, eliminating product interference with the reading window with most matrices. The CO_2 released during the organism growth changes the agar plug from green/blue-green to yellow. The color change in the dye is read by the instrument.

Materials Required

1. *Staphylococcus aureus* (S2-SA) vial
2. For USP: Tryptic Soy Broth (BLX-TSB90)
   a. If required, use a designated neutralization broth, such as D/E Neutralizer, TAT Broth, Modified Letheen Broth, etc.
3. *Staphylococcus aureus* supplement (S2-SAS)
4. Coagulase SA Reagent (BLX-COG)

Dependent on Sample Tested

1. Sterile 1 N to 5 N sodium hydroxide (NaOH) and/or hydrochloric acid (HCl)
2. pH meter or pH paper

Vial Specifications

1. Vial pH is 7.0 ± 0.2
2. Vial sample capacity up to 0.1 mL

Sample Preparation

1. For USP testing, perform 1:10 dilution by adding 10 g of sample in 90 mL of Tryptic Soy Broth (See NEOGEN® Rapid Microbiology System Validation Book, Introduction, p.5) or designated neutralization broth.
   a. Check pH and adjust, if necessary, to 7.0 ± 1.0.
2. Incubate for 18–24 hours at 35°C.

Vial Preparation

1. Remove S2-SA vials from the refrigerator and allow to equilibrate to room temperature.

Inoculation of Vial

1. Transfer 0.1 mL of the *Staphylococcus aureus* supplement (S2-SAS) to the S2-SA vial.
2. Cap the vial and gently invert 3 times to mix sample.
3. Transfer 0.1 mL of the incubated enriched sample to the S2-SA vial.
4. Cap the vial and gently invert 3 times to mix sample. Keep cap tight.
5. Insert the vial into the Soleris® instrument set at 35°C and run for the pre-programmed test duration. It is not recommended to adjust the parameters without consulting NEOGEN Technical Services.
6. If detection occurs, perform the Coagulase *Staphylococcus aureus* confirmation test.

Algorithm Utilized

Test	Threshold	Skip	Shuteye	Test Duration	Temperature
S2-SA	15	1	30	22 hours	35°C

Confirmation Procedure

1. Remove the presumptive positive (detecting) S2-SA vial from the instrument at the completion of the assay.
2. Rehydrate the *Staphylococcus aureus* Coagulase plasma (BLX-COG)
   a. Rehydrate the lyophilized Coagulase plasma with sterile DI water
   b. Invert vial and mix well.
   c. Dispense 0.5 mL aliquots into sterile tubes
      i. Aliquots may be tightly capped and frozen at -20°C or below for up to 1 month or refrigerated at 2-8°C for 5 days.
      ii. Frozen aliquots of the Coagulase plasma should not be re-frozen.
3. Transfer 0.5mL from the presumptive positive S2-SA vial into a 0.5 mL aliquot of *Staphylococcus aureus* Coagulase plasma and swirl to mix.
4. Incubate tube at 35°C for 4 hours
5. Gently slant the tube to look for clotting.
   a. If clotting is present the sample is presumptively positive for *S. sureus* – and should continue through your out of specification procedure
   b. If no clotting is present, then reincubate the sample for 20 hours to confirm a clot does not form. If a clot does not form then the sample does not contain *S. aureus*.
   c. NOTE: results after 24 hours may be invalid, as the fibrinogen in the plasma can break down over time.
6. If a clot is seen after the incubation, the sample may be positive for *S. aureus* and should be sent out for identification. If it remains liquid, the sample does not contain *S. aureus*.

Disclaimers

Information provided is based on validation procedures that NEOGEN performed in NEOGEN Laboratories. Deviation from procedures is possible, but should be discussed with NEOGEN Technical Services.

Appearance of the vials should be inspected prior to use.

If shuteye detections are observed, the threshold may need to be adjusted based on the product matrix. Certain product matrices may require parameter adjustments, including increased test duration. For more information contact NEOGEN Technical Services.

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