

Interpretation Guide

An introduction to using and interpreting results for Peel Plate® SA Microbial Tests.



Introduction

The Peel Plate® SA Microbial Tests are prepared culture methods used for the detection and enumeration of *Staphylococcus aureus* bacteria. Peel Plate SA test use a Baird Parker based medium for *Staphylococcus* detection.

These tests can be used for testing liquid foods, solid foods, and environmental sponge samples. The purple or blue colored colonies of the Peel Plate SA test are easily counted against the white background of the test plate. Each purple or green (blueish) colony with a white center represents a presumptive positive of 1 CFU of *Staphylococcus aureus*.

At 24 hours of incubation, check the plates for growth. If there is no growth, the test is complete. If growth is present, continue incubating for additional 24 hours (48 hours total). Any purple or green (bluish) colonies with a white center after 24 hour incubation are presumptive positive for *Staphylococcus aureus*. Mark all presumptive colonies at 24 hours and continue incubation.

At 48 hours, all purple colonies with or without a white center are presumptive positive for *Staphylococcus aureus*. Confirm that any green colonies with a white center at 24 hours are now purple. Count the total number of purple colonies on the plate and report as total presumptive positive for *Staphylococcus aureus* CFU/mL or CFU/g per dilution tested. Any red or green (bluish) colonies at 48 hours are negative and not counted as *Staphylococcus aureus*. If a colony is not purple (with or without a white center) at 48 hours it is not *Staphylococcus aureus*.

- **Sensitivity:** >1 CFU/mL of test sample
- **Accurate quantitative range:** 20 – 200 CFU/plate
- **Incubation:** 24^c – 48 hours at 35 – 37 °C

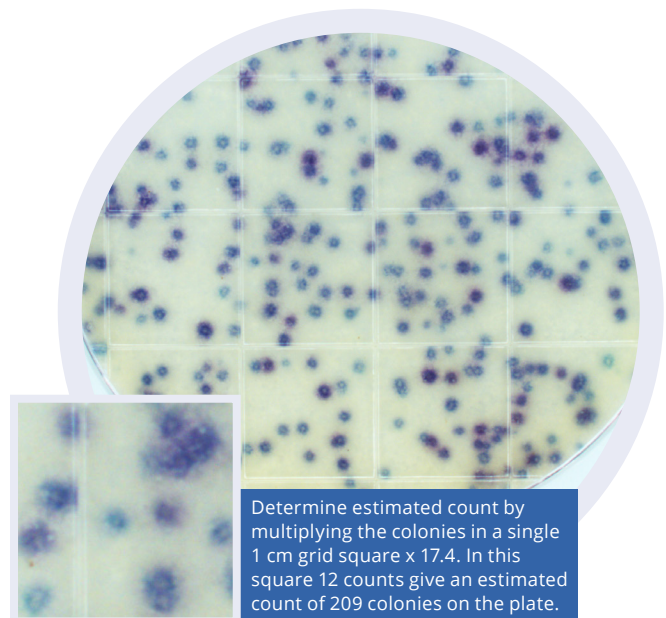
*If no growth at 24 hours, test is complete. If growth is present, incubate for additional 24 hours (48 hours total).

What You Can Expect to See

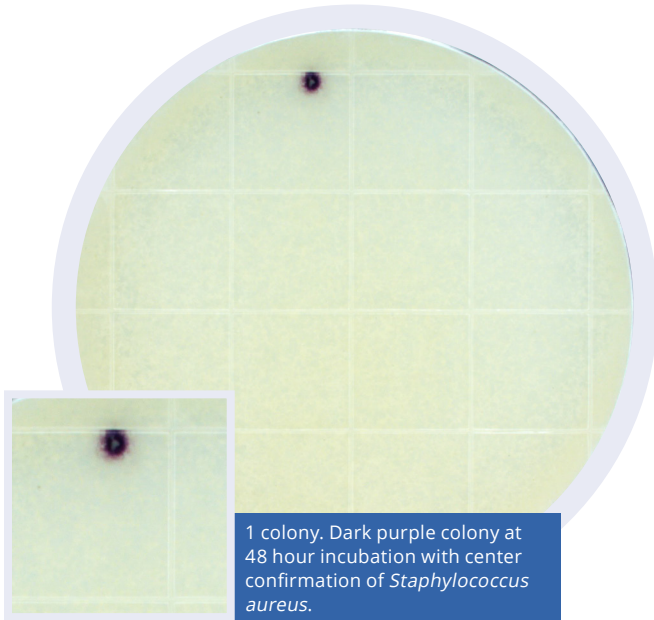
Depending on the matrix and product contaminants, colonies may be expressed differently.



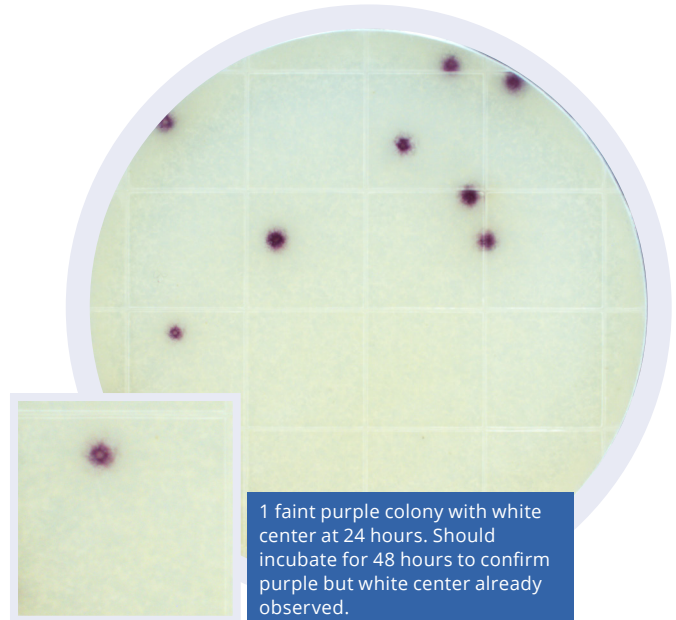
0 Colonies (No Growth)



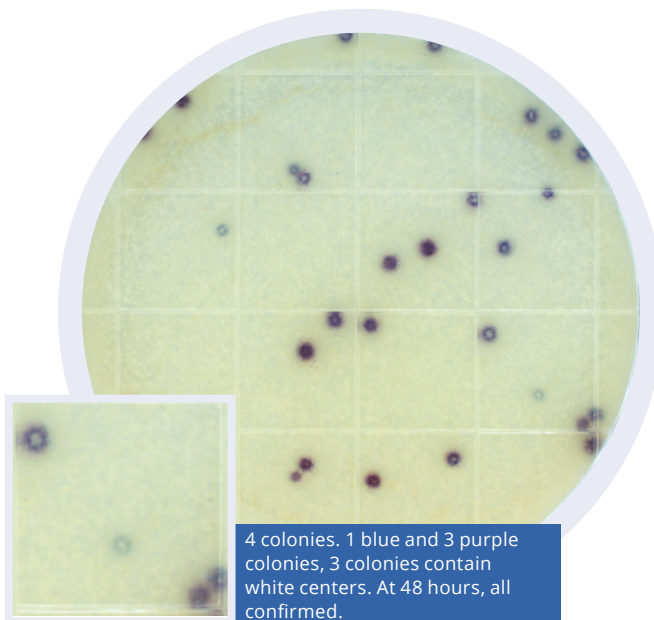
TNTC (Too Numerous to Count)



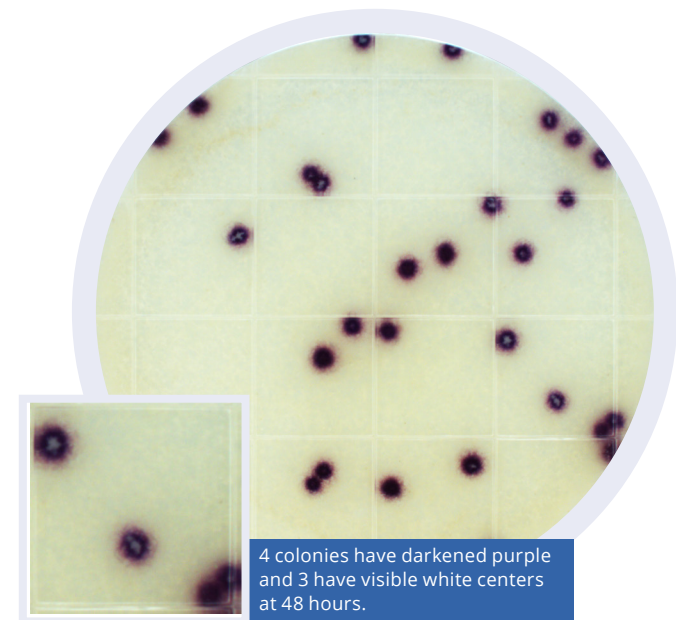
1 Colony (Egg 48 hour)



8 Colonies (Cheese 24 hour)



28 Colonies (Beef 24 hours)



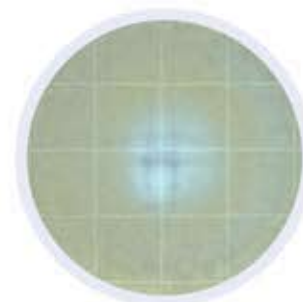
28 Colonies (Beef 48 hours)



General Troubleshooting

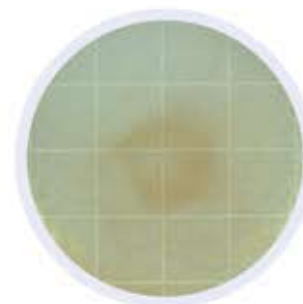
Craters or Incomplete Wicking

Craters are formed when the sample is dispensed too slowly or the pipette is held too far away from the media. Samples should be dispensed within 2-3 seconds and the pipette should be held 1-2 cm above the media. Although incomplete wicking does not effect counts, best practice is to make sure the sample wicks evenly across the plate. If sample is too viscous to wick completely, additional dilution of the sample may be required or assist the wicking by lifting and rocking the plate. For more information on wicking, please contact Charm Technical Services.



Matrix Pattern on Tests

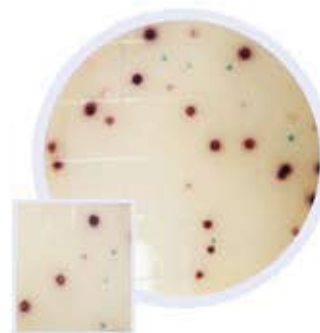
Some colloidal matrices like chocolate milk, or tomato paste, may have their particulates filter and concentrate at the site of sample delivery to the plate. This is most frequently observed with dilution pipets that inadequately mix sample during dilution. While matrix pattern does not affect the bacterial growth of plates, it can cause some interpretation questions. Matrix patterning may be reduced with mixing samples thoroughly before applying to test. Fruit and vegetable pulp that contain color may be mistaken as growth if not marked before incubation.



Growth of Other Staphylococcus Bacteria

Only the *Staph aureus* will turn purple in 48 hours on this test. At 48 hours, any other colored colony is not *Staph aureus*. Only count the purple colonies. These may or may not contain a white center.

In the image to the right there are 2 purple presumptive positive *Staphylococcus aureus* colonies, 7 colonies total; at 48 hours, 2 purple colonies, 2 red colonies (1 dark, 1 light), 3 blue colonies. Report only the presumptive positive *Staphylococcus aureus*.



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