



Determining the presence of *Pseudomonas* and *Staphylococcus* bacteria in water, food and dairy samples
Used in oil, gas and petrochemical industries, air industries, food industries, water and waste water, pharmaceutical and other industries.

Staphylococcus is a human pathogenic bacterium that can cause a wide range of serious hospital infections to pneumonia, bacteremia, sepsis and toxic shock syndrome.

Pseudomonas are also found in water containing oxygen and rich in organic pollutants such as diesel, solvents, etc. The presence of *Pseudomonas* in the samples indicates biological and aerobic decomposition in the system, after which sediments will be formed in the system. *Pseudomonas* are able to produce fluorescent pigments, which are considered dangerous from a health point of view.

The presence of *Pseudomonas* bacteria in water samples is associated with many problems such as the formation of masses called slime, turbidity, bad taste and smell, corrosion, biodegradation and health problems. These bacteria usually produce the smell of fish or kerosene. The presence of aggressive fluorescent producing *pseudomonas* must be taken into account because it can be associated with skin, eye, ear and urinary tract infections.

Pyocyanin and pyoverdine are the two main pigments produced by *Pseudomonas*. Pyocyanin is a pigment characterized by a bluish color and is caused by the presence of *Pseudomonas aeruginosa*. This strain is usually associated with clinical samples such as wounds, burns, otitis media, lung ulcers, and urinary tract infections, and it is considered an important health problem in the waters of recreational areas.

MicrobCheck™ S/P slides have a rich and specific agar culture medium for *Pseudomonas* with a specific formulation on one side and a rich and specific medium for *Staphylococci* with a unique formulation on the other side. Using these slides, the presence of *Pseudomonas* and *Staphylococci* in a sample can be easily determined and identified. If *staphylococcus* is present in the sample, black colonies will be formed on the agar medium. Also, the growth of *pseudomonas* can be recognized with green colonies on the other side of the slide.

MicrobCheck™ S / P slides have two different culture media on both sides of the slide and the examination surface with dimensions of 8 square centimeters.

Manufacturer's Recommendation

Avoid contact with the inner wall of the falcon and perform the test under sterile conditions.

After opening the falcon, place it upside down, with the bottom facing the ground, on a clean surface.



Test Method

Liquid Sampling: After taking out the slide from inside the sterile falcon, dip it into the liquid under investigation and wait for ten seconds, then take out the slide and wait for a few seconds until the excess liquid is removed from the surface of the slide. After that, put the slide back inside the falcon and close the falcon door well.

Surface Sampling: Remove the slide from the sterile falcon and examine it in direct contact with the surface. The contact of two surfaces should be in such a way that the agar medium of the slide is completely stretched over the examined surfaces so that the maximum bacterial recovery takes place.

Air Sampling: Take the slide out of the sterile falcon and expose it to air for 15 minutes and then put it back inside the falcon.






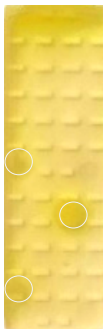
Incubation: Incubate slides at 30-35°C for 48-72 hours.

Interpretation of Results

Compare the growth pattern of the bacteria with the reference images. The number is calculated based on colony forming units (CFU) per ml.







The growth of *Pseudomonas aeruginosa* bacteria is associated with the production of green pigments, therefore the color of the agar medium changes to green. The higher the sample contamination with *Pseudomonas aeruginosa*, the darker the green color of the culture medium. Note that the morphology of the colonies of this bacterium on the agar medium is in the form of irregular mucoids that spread over the medium, and if the number of colonies is high, they cannot be separated and counted. In the first two reference images for *Pseudomonas aeruginosa*, colonies are marked with circles. Sometimes black or green color may appear around the slide, which does not affect the counting of colonies and is not calculated.

Total *Pseudomonas aeruginosa* Count

CFU / ml	10 ⁷	10 ⁶	10 ⁵	10 ⁴	10 ³	10 ²
Reference images						



Total Coagulase-Positive *Staphylococci* Count

CFU / ml	$\geq 10^7$	10^6	10^5	10^4	10^3	10^2
Reference images						

Quality Control of MicrobCheck™ S / P Test Kit

To confirm the quality and performance of the MicrobCheck™ S / P kit, the specified strains can be cultured and the results can be checked based on the table below. To perform this test, prepare a diluted suspension of the reference microorganism and immerse the kit slides in it.

Organism (ATCC)	<i>Staphylococci</i> Side	<i>Pseudomonas</i> Side
<i>Pseudomonas aeruginosa</i> (27853)	Inhibition	Yellow-Green Colonies
<i>Staphylococcus aureus</i> (25923)	Black Colonies	Inhibition
<i>Escherichia coli</i> (25922)	Inhibition	Inhibition

Best Time to Use

The expiration date of the kits is 6 months and it is necessary to store them in the refrigerator. It is recommended to avoid frequent temperature changes and freezing. It is possible to see a small amount of moisture in the bottom of the falcon. This has no effect on the performance of the test kit. In case of improper storage, signs of growth, dehydration, or separation of agar from the slide may be observed. In this case, do not use test kits.

Disposal

Test kits are completely contaminated after use and bacterial growth. As a result, it is necessary to autoclave them or burn them in a furnace. If this is not possible, open the falcons under the laboratory hood and fill it with bleach liquid with a concentration of 5 to 10%. Let it sit overnight and then throw it away.

