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DipslideSRB-Test (Sulphate reducing bacteria-Test) Product manual

Bacteria test tubes were created to complement Dipslide, which generally focuses on testing aerobic bacteria, and Bacteria test tubes, which focus on testing anaerobic bacteria.

SRB (Sulphate Reducing Bacteria) live in anaerobic environments and survive primarily by reducing sulfate to sulfide. Detection of SRB helps to understand the extent of sulfate reduction in water, soil, or other environments, providing important data for environmental quality assessment. In some industrial processes, SRB can lead to the production of sulfide, which is a potential threat to the corrosion of equipment and piping.

Our SRB Test tubes are designed to detect the presence of SRB in a rapid and semi-quantitative manner (only 0-5 days of incubation at 35°C), helping to implement preventive control measures and maintain the integrity of industrial facilities.
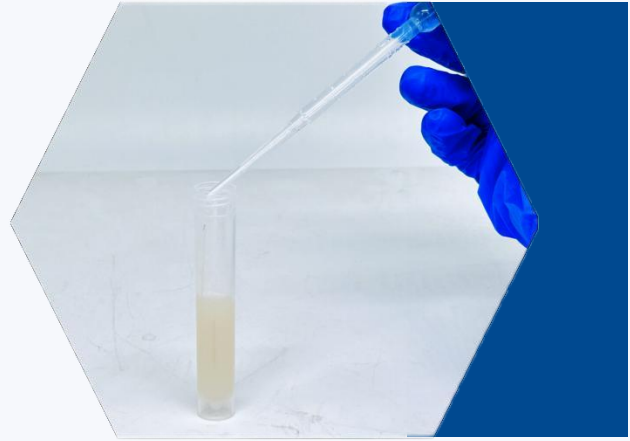
Product Features

- Detection range: 10^2-10^6 CFU/ml;

- Quick and easy operation, Ready to use

- Store in a **cool and dry place away from light**, No refrigeration required;

- • Single tube measurement, only one tube is needed to test the results;

- Results are quick and can be obtained in only 0-5days;

- **Rich application scenarios**, can be used for detecting liquids, object surfaces;

- The color of the product is yellowish, making positive results easier to identify..

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Usage method

For Liquid samples

- Unscrewing the Dipslide SRB-Test cover counterclockwise；
- Take 2.0 mL of the sample to be tested and fill the tube (note: no shaking is required).
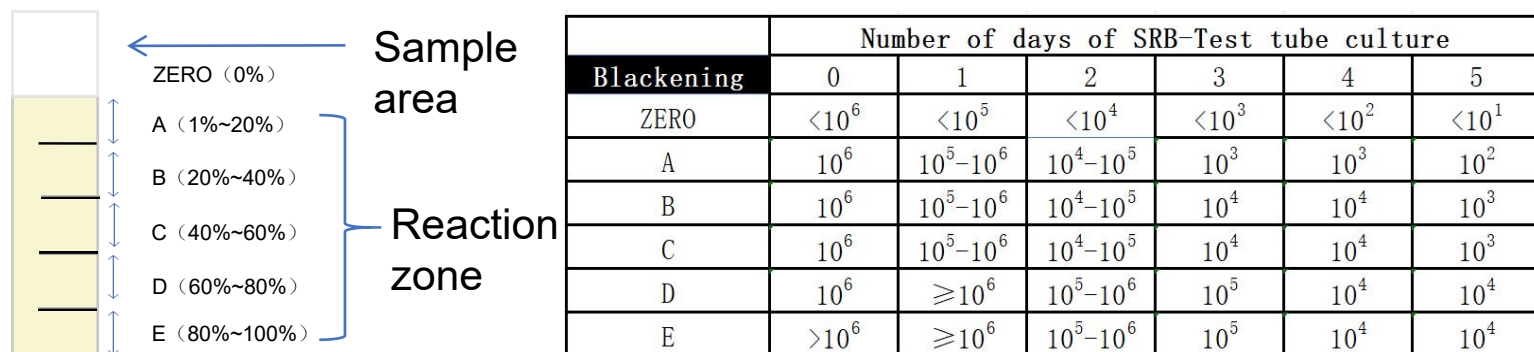- Tighten the cap clockwise.

For Solid Surfaces

- Sample the surface of the object by applying a sterile cotton swab. ;
- Unscrew the lid of the Dipslide SRB-Test counterclockwise and pierce the swab in the agar；
- Tighten the cap clockwise .

Incubation

- Ensure that the Dipslide SRB-Test tubes are tightly screwed and placed vertically in an incubator at 35°C for 0-5 days; observations are made on a daily basis and can be terminated earlier (as soon as possible within one day) based on a comparison chart of the results.;
- If left to incubate at room temperature, it will take 1-2 days to compare the results.
- If the incubation temperature is below room temperature, it is recommended to extend the incubation for another 1 or 2 days to compare the results.

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Comparison of SRB-Test (Sulphate reducing bacteria-Test) results

ZERO（0%）

Sample area

A（1%~20%）

B（20%~40%）

C（40%~60%）

Reaction zone

D（60%~80%）

E（80%~100%）

Blackening	Number of days of SRB-Test tube culture					
	0	1	2	3	4	5
ZERO	$<10^6$	$<10^5$	$<10^4$	$<10^3$	$<10^2$	$<10^1$
A	10^6	10^5-10^6	10^4-10^5	10^3	10^3	10^2
B	10^6	10^5-10^6	10^4-10^5	10^4	10^4	10^3
C	10^6	10^5-10^6	10^4-10^5	10^4	10^4	10^3
D	10^6	$\geq 10^6$	10^5-10^6	10^5	10^4	10^4
E	$>10^6$	$\geq 10^6$	10^5-10^6	10^5	10^4	10^4

➢ Test results in CFU/ml - the total number of microbial communities per milliliter.;

➢ When the number of days of incubation is ≤0.5 days and the blackened area reaches 100%, it means that the SRB content in the sample is $\geq 10^7$CFU/ml, and it can be diluted and retested;

➢ The colony comparison table was developed by Pyxis.lab based on experiments and analysis of the strains, and serves mainly as a recommendation and guide.

Precautions for storage and use

■Dipslide SRB-Test has a shelf-life of 6 months. If colonies have grown on the slide prior to testing, please discard immediately.

■ Direct sunlight and high temperatures can cause agar water loss and indicator failure. Please store this product in a cool and dry place, with an optimal storage temperature of 12-25 ℃.

■Dipslide SRB-Test must be kept sealed before use, and must be used immediately after unscrewed and cannot be reused.

■The changes in temperature and humidity during storage can cause sterile condensed water to be generated in the bacterial test tube, which has no impact on the result itself.

■During the process of microbial reproduction, adverse odors may appear. It is recommended to wear relevant protective equipment before opening the cover for observation.

■After use, the test tubes should be disposed in accordance with local regulations. They can be sterilized by high temperature, high pressure, damp heat and soaked in disinfectant overnight before disposing it into the waste bin.

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FAQ for Dipslide SRB-Test

1.Why test for sulfate-reducing bacteria?

Sulfate-Reducing Bacteria (SRB) are anaerobic microorganisms. It is widely found in anoxic environments such as soil, seawater, river water, underground pipelines, and oil and gas wells. It can reduce sulfate to hydrogen sulfide using organic matter on metal surfaces as a carbon source and hydrogen produced within the bacterial biofilm. Sulfate-reducing bacteria (SRB) are also capable of accumulating on pipeline walls, allowing for the possibility of localized pitting. Sulfate-reducing bacteria react with organic material and sulfate to produce hydrogen sulfide and carbon dioxide will react with iron in the pipe wall to produce different forms of iron sulfide. Iron sulfide and other forms of deposits in the pipeline to form a large number of black powder, these black powder than the pipeline carbon steel hardness, so it will cause serious corrosion hazards on the pipeline components.

2. Is the SRB Test tube a standard method?

Not. Our SRB Test is mainly used to detect the presence of SRB in a semi-quantitative and rapid way (only 0-5 days of incubation at a constant temperature of 35°C) and its final result is not a very precise value.

3.Do all the test tubes need to be incubated for 5 days? I've used the regular lab method before and it usually takes 14-21 days and requires 9 or even 15 test vials?

No need, check the SRB-Test results comparison table can be obtained: when the number of days of culture is 0 days, the blackened area reaches grade E (80-100%); the content of SRB is $>10^6$CFU/ml, at this time the experiment can already be finished. Our SRB-Test requires only one tube for one sample, but it is still better than the conventional laboratory method in terms of accuracy.