PYRUVATE BROTH

- For in vitro use only - Catalogue No. TP99

Our Pyruvate Broth is used to determine the ability of an organism to utilize the substrate pyruvate.

The presence of the test substrate pruvate allows for differentiation between those organisms that can metabolize pyruvate from those that can't. This characteristic is useful in differentiating between organisms such as *Enterococcus faecalis* and *Enterococcus faecium*.

Pyruvate broth contains pancreatic digest of casein and yeast extract which provide the bacteria with amino acids, vitamins, and other vital growth factors. Phosphate is added to help maintain a stable pH, since the breakdown of pyruvate results in an acidic shift in the pH of the broth. Pruvate is the active substrate; those organisms that can utilize pyruvate can breakdown the substrate generating a host of metabolic acids which is detected by the pH indicator bromthymol blue. When sufficient acid is generated the medium changes from a blue-green coloration to yellow.

Formula per Litre of Medium

Pancreatic digest of casein .....10.0 g
Yeast extract.....5.0 g
Sodium chloride .....5.0 g
Dipotassium phosphate.....5.0 g
Bromthymol blue .....0.04 g
Sodium pyruvate.....10.0 g

pH 7.3 ± 0.2

Recommended Procedure

1. Allow medium to reach room temperature prior to inoculation.
2. Using a direct inoculum from a pure, overnight culture, pick a colony and inoculate the broth.
3. Incubate tubes aerobically with loose caps at 35°C.
4. Examine tubes daily for up to 5 days.

Interpretation of Results

A positive pyruvate utilization result is indicated by a color change of the broth from greenish-blue to yellow.

A negative pyruvate utilization result is indicated by no color change and the reulstant broth remaining a greenish-blue color.

Quality Control

After checking the medium for correct pH, color, depth, and sterility, the following organisms are used to determine the performance of the completed medium. The tubes are inoculated and examined after 48 hours at 35˚C.

Organism	Expected Result
Enterococcus faecalis ATCC 29212	Growth, yellow color change
Enterococcus faecium ATCC 6569	Growth, no color change
Streptococcus bovis ATCC 9809	Growth, no color change

Storage and Shelf Life

Our Pyruvate Broth should be stored away from direct light in an upright position at 4 to 8°C. Under these conditions, the medium has a shelf life of 26 weeks from the date of manufacture.

Ordering Information

Cat#	Description	Format
TP99-04	Pyruvate Broth 4-mL [13x100-mm Screw Cap Tube]	10/pkg

References

1. Waitkins SA. Use of pyruvate fermentation compared with tetrazolium reduction in the differentiation of group D streptococci. J Clin Path 1978; 31:692-5.
2. MacFaddin JF. Media for isolation-cultivation-maintenance of medical bacteria, Vol I. Baltimore: Williams & Wilkins, 1985.
3. Forbes BA, Sahm DF, Weissfeld AS. Bailey and Scott's diagnostic microbiology 10th ed. St. Louis: Mosby, 1998.
4. MacFaddin, JF. Biochemical Tests for the Identification of Medical Bacteria, 3rd ed. Philadelphia: Lippincott Williams & Wilkins, 2000.

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