Rapid PYR Test Kit

Intended Use
Rapid PYR Test Kit is used to detect Group A Streptococci and Enterococci.

Summary
Group A Streptococci and Enterococci can be differentiated from other Streptococci by their ability to produce an enzyme L-pyrroglutamyl aminopeptidase. The PYR test uses L-pyrrolidonyl-β-napthylamide (PYR) substrate to detect the presence of this enzyme L-pyrrolidonyl arylamidase.

Principle
PYR is a rapid test to determine the ability of the organism to produce the enzyme L-pyrrolidone arylamidase. Following incubation and addition of the reagent (p-dimethylamino-cinnamaldehyde), a cherry red colour development indicates a positive test. The colour is formed when the PYR reagent combines with L-pyrrolidone and β-naphthylamine, hydrolysis products from the substrate, L-pyrrolidonyl β-napthylamide breakdown.

Reagent
The Microxpress® Rapid PYR Test Kit is a reagent set for laboratory use only.
The Microxpress® Rapid PYR Test Kit comprises of:
1. 10 vials containing 1 mL medium each for L-pyrrolidonyl arylamidase activity.

Additional Material Required
0.9% Saline, micropipettes, culture media, activated 2% Glutaraldehyde solution, sterile test tube, incubator/water bath at 37°C ± 2°C.

Directions
Preparation of Inoculum
1. Isolate the organism to be identified on Brain Heart Infusion Agar (BHI).
2. Pick up a single well-isolated colony and streak on to BHI agar slant for enrichment and incubate at 37°C for 18-24 hours.
3. Observe for good growth.
4. Wash the growth with 2-3 mL sterile saline.
5. Match the turbidity of this suspension to McFarland Standard Number 0.5.

Inoculation of Vials
1. Bring the medium/vial to room temperature.
2. Inoculate the vial with 100 µL of the above prepared inoculum.
3. Incubate at 35°C-37°C for 4-5 hours.
4. Observe for growth.
5. Add 2-3 drops of PYR Reagent.

Quality Control
Appearance: Clear, light yellow coloured medium.
Cultural Response: Vials are inoculated with 100 µL culture suspension of the following organisms, incubated for 4-5 hours at 35°C-37°C and results observed by adding 2-3 drops of PYR reagent, are as follows.

Organism (ATCC)	Reaction in PYR Test
Enterococcus faecalis (29212)	+
Streptococcus pyogenes Strain Bruno (19615)	+
Lactobacillus plantarum (8014)	-

Key: + = Cherry red colour; - = Yellow to orange colour

Interpretation of Results
1. Development of cherry red colour indicates positive test.
2. No colour change, or development of pink, orange or yellow colour indicates a negative reaction.

Remarks

1. The Microxpress® Rapid PYR Test Kit is an In vitro diagnostic kit for laboratory and professional use only. Not for medicinal use.
2. The Microxpress® Rapid PYR Test Kit cannot be used directly on clinical specimens.
3. Do not use damaged or leaking kits. Avoid contact of reagents with skin and eyes
4. Clinical samples and microbial cultures should be considered as pathogenic biohazard and handled accordingly. Good laboratory practices and hazard precautions must be observed at all times.
5. Always use pure culture and a heavy inoculum for testing.
6. It is important that testing first be performed to determine that the organism is *Streptococcus*. Ensure test organism is α-haemolytic, catalase negative and Gram-positive coccus (*Staphylococcus*, *Aerococcus*. *Lactococcus*, most *Corynebacterium haemolyticum* as well as some Enterobacteria and other Gram-negative bacilli are also PYR-positive).
7. Group D Enterococci and Group A Streptococci are both PYR positive, the ability to hydrolyze bile esculin may be used to presumptively identify group D Streptococci.
8. The test is an aid to identification and is not a confirmatory test. Complete identification should include determination of gram reaction, morphology, and other biochemical and serological tests.

Warning

This reagent is harmful if swallowed. It is advisable to avoid contact with skin and eyes.

Storage and Stability

1. Store the Microxpress® Rapid PYR Test Kit in a cool, dry place at 2°C-8°C away from bright light.
2. Stability of the Microxpress® Rapid PYR Test Kit is as per the expiry date mentioned on the label.

Warranty

This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

Reference

1. Practical Medical Microbiology, Mackie & McCartney, 13th edition 1989, Edited by J. G. Coffee, J. P. Duguid.
2. Diagnostic Microbiology, Bailey & Scott, 9th Edition, Mosby, 1994.
3. Clarke P.H. And S.T. Conan, Biochemical Methods for Bacteriology, J. Gen. Microbiol., 1952. Vol. 6: 187-197.
4. Facklam RR, ThackerLG, Fox B, Eriquez. L Presumptive identification of streptococci with a new system. J Clin Micro 1982; 15:987-90.
5. Preliminary Evaluation of a Rapid Colorimetric Method for The Presumptive Identification of Group A Streptocooci And Enterococci, Paul D. Ellner, Darryl A. Williams, *et al.,* Journal of Clinical Microbiology, Nov. 1985, Vol. 22, No. 5, P: 880-881.
6. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat. No.	Product Description	Pack Size
203180160001	Ready Prepared Kit	1 Kit (10Tests)