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Section: Technical Manual	Subject Title: Oxidase (API Strip)	
Issued by: LABORATORY MANAGER	Original Date: July 31, 2000	
Approved by: Laboratory Director	Revision Date: February 15, 2002	

OXIDASE (API STRIP)

Principle

This test determines whether an isolate produces oxidase enzymes. This test is mainly used, in conjunction with other tests, for the identification of gram negative organisms and *Bacillus* species.

Reagents

API Oxidase Reagent

- 0.2% Aqueous ascorbic acid: Reconstitute ascorbic acid with 25 ml sterile distilled water. This solution may be refrigerated for up to 28 days. The expiry date must be written on the bottle.
- N,N,N,-Tetramethyl-p-phenylenediamine-dihydrochloride: Reconstitute with 5 ml of the 0.2% aqueous ascorbic acid. It is recommended that this be re-constituted 4-5 hours before use. This solution may be refrigerated for up to 7 days at 2 - 8°C. The expiry date must be written on the bottle.

Other Materials

API filter paper
API oxidase tray
Wooden applicator stick

Procedure

- Place a filter paper in the oxidase tray and moisten entire paper with oxidase reagent. Allow to air dry. May be used for up to 1 week.
- Transfer a portion of the colony to the filter paper using a wooden applicator stick.
- Observe for 30 seconds.

Interpretation

Positive: Development of a purple colour within 30 seconds
Negative: No colour change

Precautions

Nichrome wire may cause false positive reactions.

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Quality Control

Test daily with known positive and negative controls.

Positive: *P. aeruginosa* (ATCC 27853)

Negative: *K. pneumoniae* (ATCC 13883)

References

1. API Oxidase package insert 3/80.
2. MacFaddin JF, Biochemical Tests for Identification of Medical Bacteria, 2nd ed., Williams and Wilkins, Baltimore MD, 1980, p249-260.