STANTON TERRITORIAL HEALTH AUTHORITY

Yellowknife, Northwest Territories

TITLE: Oxidase	Revision Date: 11-March-2016	Issue Date: 11-March-2014
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Distribution: Microbiology Test Manual	**Page:** 1 of 4	
Approved by: Cheryl Case, Manager of Diagnostic Services	**Signed by:** Cheryl Case	

INTRODUCTION:

This test is useful in differentiating organisms, especially member of genera *Neisseria*, *Pseudomonas*, *Moraxella*, *Vibrio* and *Aeromonas* which are oxidase positive.

PRINCIPLE:

This test detects the presence of intracellular oxidase enzymes (cytochromes) which play a part in the electron transport system of respiration in some aerobic and facultative bacteria. The reagent is based upon the oxidation of tetramethyl-p-phenylenediamine by bacterial cytochromes in the presence of atmospheric oxygen to form a **purple** coloured compound (Wurster's **blue**).

SAMPLE INFORMATION:

Type	One well isolated colony

REAGENTS and/or MEDIA:

Type	Pro-Lab Test Oxidase Reagent, Cat#PL.390
Storage Requirements	• Store at controlled room temperature (15°C – 30°C) in the original container. • Do not freeze or overheat. • Protect from light.

	• Keep the screw cap tightly closed.
Stability	Product stored under the above conditions will be stable until expiry date shown on the label.

SUPPLIES:

- Inoculating loop or sticks
- Filter paper strips or pads
- Incubator
- QC organisms

SPECIAL SAFETY PRECAUTIONS:

Since viable micro-organisms are used, all cultures must be handled with appropriate precautions. All equipment in contact with cultures should be decontaminated by appropriate methods.

QUALITY CONTROL:

Quality Control is set up each day the test is performed using the following control organisms:

Positive: *Pseudomonas aeruginosa* ATCC # 27853

Negative: *Klebsiella pneumoniae* ATCC # 13883

- A TQC order is automatically generated to record the QC results

PROCEDURE INSTRUCTIONS:

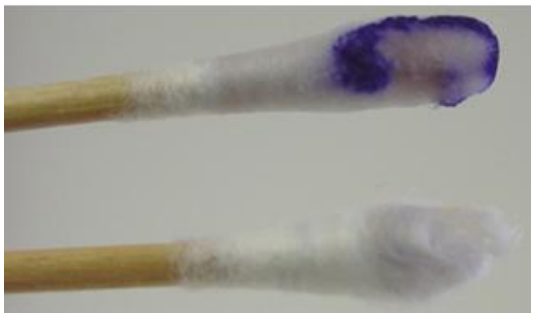
Step	Action
Direct Colony Method	
1	In the plate log – Order **^OX**
2	Add one drop of reagent to a well-isolated colony on the surface of recommended agar medium.
3	Observe the colony for a colour change within 30 seconds. (If test isolate produces excessively mucoid or slimy colonies, allow up to 1 minute for colour development.)

Step	Action
Filter Paper Method	
1	In the plate log – Order **^OX**
2	Add 1 to 2 drops of reagent to any convenient size of filter paper. Wait 1 to 2 minutes for proper reagent redistribution.
3	Using a wooden mixing stick or disposable inoculating loop (nichrome wire loops are not recommended), remove a medium size colony from the surface of the recommended agar medium and rub the inoculum onto the reagent-saturated area of the filter paper.
4	Observe the filter paper for colour change within 30 seconds.

INTERPRETATION OF RESULTS:

Positive test:

The production of a distinct **blue** or **purple** colour.



Negative test:

The absence of a distinct **blue** or **purple** colour.

NOTES AND PRECAUTIONS:

1. Avoid contact with skin, eyes and clothing. Flammable.
2. The reagent should appear colourless, cloudy or very **light tan**. Do not use if the reagent is **purple**.
3. Do not take organisms off of media with dyes or indicators such as MacConkey since it will interfere with the colour reaction.

REFERENCES:

- Test Oxidase Reagent package insert, 2009
- Clinical Microbiology Procedures Handbook Henry D. Isenberg – Editor in Chief 2004

REVISION HISTORY:

REVISION	DATE	Description of Change	REQUESTED BY
1.0	25/01/11	Initial Release	J. Whitson
1.1	31Jul13	Addition of Computer Steps and Illustration	A. Darrach
1.2	11Mar14	Changed from Document control number MTE11400 to MIC51400	C. Russell