



Key Code TSMX9252A

www.oxid.com/ifu

Europe +800 135 79 135

US 1 855 236 0190

CA 1 855 805 8539

ROW +31 20 794 7071

# MICROBACT™ OXIDASE DETECTION STRIPS

<b>REF</b>	MB0266A.....50 Strips	<b>EN</b>
	MB0266B.....100 strips	

## 1. INTENDED USE

Microbact™ Oxidase strips are for the detection of cytochrome oxidase found in certain strains of bacteria, as a rapid aid to identification from primary culture plates. The strips are for *in vitro* diagnostic use only.

## 2. SUMMARY

The Oxidase Test can be used to differentiate *Neisseria sp.*, and to separate *Pseudomonadaceae* from the Oxidase negative *Enterobacteriaceae*.<sup>1,2</sup> Most gram-positive bacteria are Oxidase negative, and many of the gram-negative bacteria other than the *Enterobacteriaceae*, are variable.<sup>3</sup>

## 3. PRINCIPAL OF THE TEST

The Oxidase test is used to detect the production of intracellular oxidase enzyme. In the presence of the cytochrome oxidase system, activation of the oxidation of reduced cytochrome by molecular oxygen occurs, in turn acting as an electron acceptor in the final stage of the electron transport system. Microorganisms which produce the oxidase enzyme, in the presence of atmospheric oxygen, cytochrome c and phenylene-diamine oxidase reagent oxidase to form indophenol, a purple coloured compound.

## 4. SYMBOL DEFINITIONS

<b>REF</b>	Catalogue Number
<b>IVD</b>	In Vitro Diagnostic Medical Device
	Contains sufficient for 50 tests
	Consult instructions for use
	Temperature limitation
<b>LOT</b>	Batch code
	Sensitive to light
	Use by
	Manufacturer

## 5. KIT CONTENTS, PREPARATION FOR USE AND STORAGE

Microbact™ Oxidase contains Paper strips impregnated with NNN'N' tetramethyl-p-phenylene-diamine dihydrochloride for the detection of bacterial cytochrome oxidase enzyme production, sufficient reagents to perform 50 tests.

See also precautions, section 6.

The expiration of the kit is stated on the package label.

If unopened, store at 2-8°C. Allow the container to reach room temperature before opening to prevent condensation of moisture on the strips.

Remove the required number of strips for testing and reseal the container.



Instructions for use  
50 test strips

## 6. PRECAUTIONS



This product is for *in vitro* diagnostic use only.

- Specimen material may contain pathogenic organisms. Handle with the appropriate precautions.
- Discard used material into a suitable waste container or disinfectant.

### ANALYTICAL PRECAUTIONS

- Do not use the product beyond its stated expiry date.
- Do not use if there is evidence of contamination, or other signs of deterioration.
- Do not touch the reaction area on the strips.
- Do not leave the strips in direct sunlight.

## 7. SPECIMEN COLLECTION AND TRANSPORT

For details of specimen collection and treatment a standard reference should be consulted.<sup>4</sup>

## 8. TEST PROCEDURE

### REQUIRED MATERIALS PROVIDED

See contents section 5

### MATERIALS REQUIRED BUT NOT PROVIDED

- Timer
- Disposable plastic or a platinum wire loop.
- A suitable laboratory disinfectant.
- Positive control: from a recognized culture collection
- Negative control: from a recognized culture collection

### PROCEDURE

Allow the container to reach room temperature before opening to prevent condensation of moisture on the strips.

Remove the required number of strips for testing and reseal the container.

Either

- Touch the colony to be tested with the Oxidase Detection Strip and observe for up to 5 seconds. A deep blue/violet colour indicates a positive reaction.

Or

- b) Transfer the colony to be tested to an Oxidase Detection Strip, using a disposable plastic or platinum wire loop. Spread the culture on the strip and observe for up to 5 seconds. A deep blue/violet colour indicates a positive reaction.

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Oxid Limited Wade Road  
Basingstoke Hants, RG24 8PW UK

## 9. QUALITY CONTROL

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Quality control should be run with each shipment and new lot number received. Each laboratory should follow their State and local requirements.

- 9.1. Positive Control: use a suitable positive control eg. *Pseudomonas aeruginosa* ATCC<sup>®</sup>27853 (Thermo Scientific Culti-Loops<sup>™</sup> R4607060), and/or *Neisseria gonorrhoeae* ATCC<sup>®</sup>43069 (Thermo Scientific Culti-Loops<sup>™</sup> R4607043), following the method described in the test procedure.
- 9.2. Negative Control: use a suitable negative control eg. *Escherichia coli* ATCC<sup>®</sup>25922 (Thermo Scientific Culti-Loops<sup>™</sup> R4607050) following the method described in the test procedure.

Do not use the test if the reactions of the control organisms are incorrect.

## 10. RESULTS

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### INTERPRETATION

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#### Positive Result

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A result is positive if a deep blue/violet colour develops within 5 seconds. This identifies the strain as Oxidase-positive.

#### Negative Result

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A negative result is obtained if no colour change occurs within 5 seconds. This identifies the strain as Oxidase-negative.

## 11. PERFORMANCE LIMITATIONS

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- 11.1. False negative results can occur if insufficient colony is transferred to the strip.
- 11.2. False negative results can occur if taking colonies from carbohydrate containing media. The low pH of the test colony and the surrounding media may result in false negative results.
- 11.3. False positive results can occur if nichrome wire loops are used. Nichrome contains iron which may catalyse the oxidation of the oxidase reagent.
- 11.4. False positive results can occur when testing colonies from blood containing media. Red blood cells contain cytochrome oxidase which may give rise to false positive results.

## 12. BIBLIOGRAPHY

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- 1 Kovacs, N. 1956. Nature. 178:703
- 2 Cowan, S.T. and K.J. Steel. 1966. Manual for the Identification of Medical Bacteria. Cambridge University Press, Cambridge, UK
- 3 Steel, K.J. 1962. J.Appl.Bacteriol. 25:445-455
- 4 <http://www.microbelibrary.org/library/laboratory-test/3229-oxidase-test-protocol>

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