Oxidase Test Strip

REF CK3520

Intended Use
This test is used to determine if an organism contains the cytochrome oxidase enzyme.

Background
Oxidase is an enzyme produced by some bacteria for electron transport and nitrate metabolism. Detection of this enzyme in freshly grown cultures is useful in the identification of some microbial species.
All *Neisseria* spp. are Oxidase positive and most fermenting Gram negative rods are Oxidase negative with the exception of some *Vibrio*, *Aeromonas*, *Pasteurella* and Chromobacteriae.
Most non-fermenting Gram-negative rods are Oxidase positive.
The Oxidase test also aids in the identification of yeasts – delineating the genus *Candida* from *Saccharomyces* and *Torulopsis*.
The test involves smearing a portion of a freshly cultured colony onto a moistened strip and observing the development of a blue/black colour within 30 seconds for a positive reaction.

Precautions
This product is for in-vitro diagnostic use and should be used by properly trained laboratory professionals. Universal precautions should be taken in the handling, processing and discarding of all materials used to perform the test. Do not use reagents after the expiration date shown on the product label has expired.

Methods
Use a fresh 18-24 hour culture as older cultures could be less metabolically active and results from these may be unreliable.
Slide:
Moisten the end of a strip with a loopful of sterile distilled water. The strip should be placed on a glass slide or similar for ease of handling and disposal.
Using a loop, wire or stick transfer a small portion of the test colony onto the moistened area of the strip and smear gently.
Observe the strip for 30 seconds; the appearance of a deep blue colour in the test area is a positive result.
Direct contact
Holding a strip with forceps lightly touch the test colony with one end of the strip. If positive the colour change will be visible within 30 seconds.

Results
Positive Reaction - immediate colour change to blue/black.
Negative Reaction – no colour change.
Where a colour change occurs between 60 and 90 seconds the isolate may be regarded as delayed oxidase positive. If there is no colour change within 2 minutes the isolate should be regarded as oxidase negative

Limitations
This test should not be performed on cultures from media containing tellurite or fermentable carbohydrates such as glucose as

these may prevent the reaction from occurring and lead to a false negative result.
Care should be taken with colonies taken from pigmented media that the colour of the colonies is not confused with a positive test result.
Metal loops and wires (nichrome) are to be avoided as they may give false positive reaction.

Quality Control
A quality control should be undertaken daily or immediately prior to use.
Bacteria
Positive control-
Pseudomonas aeruginosa ATCC 27853
Negative control-
Escherichia coli ATCC 25922
Yeast
Positive control-
Candida albicans NCPF 3281
Negative control-
Saccharomyces cerevisiae NCPF 8348

Shelf Life & Storage
The expiry date, storage temperature (ambient) and storage conditions are indicated on the outer package label.

Materials provided
Each pack contains 50 test strips impregnated with a solution of ascorbic acid and tetramethyl-p-phenylenediamine dihydrochloride

Materials required but not provided
Sterile loops or needles
Sterile distilled water
Glass slide, petri dish

References
Standards Unit, National Infection Service, PHE. UK SMI, TP26-Oxidase Test, Issue 4, 16.01.19.
Barrow, G.I. & Feltham, R.K.A. Cowan and Steel's Manual for the Identification of Medical Bacteria. Third edition.
Ford, M. Medical Microbiology. Oxford University Press.

REF	Catalogue number
LOT	Batch number
	Use by date
IVD	In-Vitro Diagnostic device
Σ	Contains sufficient for <n> tests
	Temperature storage limitations
	Consult instructions for use
	Manufacturer

Issue	Date	Comments
4	22/07/2020	IFU format revision. Strip reading times revised in line with SMI TP26 guidance

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