TBL 030 - OXIDASE DISCS

INTENDED USE

For detection of oxidase production by microorganisms.

PRODUCT SUMMARY AND PRINCIPLE

Certain bacteria posses either cytochrome oxidase or indophenol oxidase (an iron-containing haemoprotein), which catalyzes the transport of electrons from donor compounds (NADH) to electron acceptors (usually oxygen). In the oxidase test, a colourless dye such as N, N-dimethy-p-phenylenediamine serves as an artificial electron acceptor for the enzyme oxidase. The dye is oxidized to form indophenol blue, a coloured compound. The test is useful in the initial characterization of aerobic gram-negative bacteria of the genera *Aeromonas*, *Plesiomonas, Pseudomonas, Campylobacter* and *Pasteurella*. Oxidase discs are sterile filter paper discs impregnated with N, N-dimethyl-p-phenylenediamine oxalate, ascorbic acid and a-naphthol. These discs overcome the neccessity of daily preparation of fresh reagent. Gordon and McLeod introduced oxidase test for identifying gonococci based upon the ability of certain bacteria to produce indophenol blue from the oxidation of dimethyl-p-phenylenediamine and a-naphthol. Gaby and Hadley introduced a more sensitive method by using N, N-dimethyl-p-phenylenediamine oxalate where all staphylococci were oxidase negative. In a positive reaction the enzyme cytochrome oxidase combines with N,N-dimethyl-p-phenylenediamine oxalate and a-naphthol to form the dye, indophenol blue.

INSTRUCTION FOR USE

Oxidase reaction is carried out by touching and spreading a well isolated colony on the oxidase disc. The reaction is observed within 5-10 seconds at 25-30°C. A change later than 10 seconds or no change at all is considered negative reaction

QUALITY CONTROL SPECIFICATIONS

Appearance : Filter paper discs of 10 mm diameter.

INTERPRETATION

Typical oxidase reaction given by 18-48 hour culture observed within 5-10 seconds at 25-30°C.

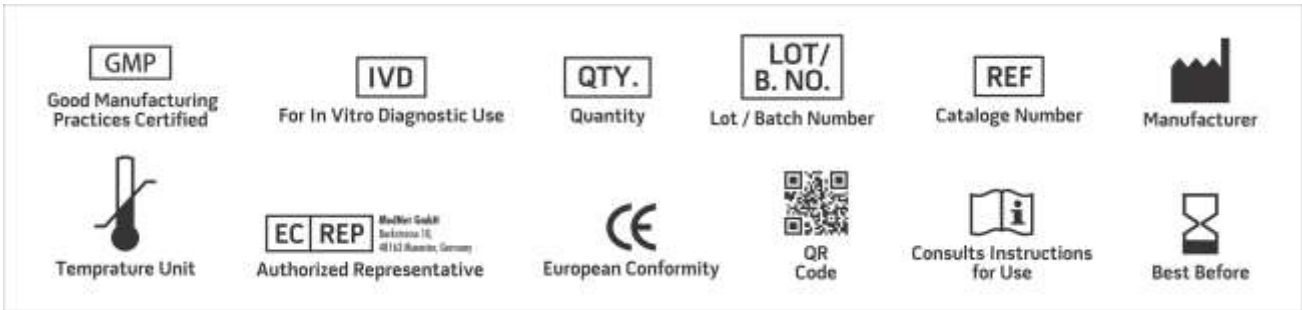
Microorganism	ATCC	Reaction observed
Pseudomonas aeruginosa	27853	Positive : deep purplish blue colouration of disc
Neisseria gonorrhoeae	19424	Positive : deep purplish blue colouration of disc
Escherichia coli	8739	Negative : purplish blue colouration after 10 sec/ no colour change

Staphylococcus aureus	6538	Negative : no colour change

PACKAGING:
In pack size of 50 Discs/vl.

STORAGE
Store at 2 - 8°C. Use before expiry date on the label.

REFERENCES
1.Gordon J. and Mcleod J.W., 1928, J. Path. Bact., 31:185.
2.Gaby W.L and Hadley C., 1957. J. Bact., 74:356.
3.Steel. K.J. 1962. J. Appl. Bact. 25:445.



NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**

Revision: 08 Nov., 2019