Technical Data

Gordon-Mcleod Reagent (Oxidase Reagent) R026

The Gordon Mcleod reagent (oxidase reagent) is used to carry out the oxidase test, to determine the presence of oxidase enzymes. The oxidase test, originally devised to identify all Neisseria spp., was later used to distinguish the Pseudomonadaceae from the oxidase - negative members of the Enterobacteriaceae.

Composition**

Ingredients

N,N-Dimethyl p-phenylenediaminehydrochloride	0.150 gm
Distilled water	10.000 ml

**Formula adjusted, standardized to suit performance parameters

Principle And Interpretation

The oxidase test is based on bacterial production of an intracellular oxidase enzyme. This oxidase reaction is due to a cytochrome oxidase system that activates oxidation of reduced cytochrome by molecular oxygen, which in turn acts as an electron acceptor in the terminal stage of the electron transfer system. All Pseudomonas and Neisseria spp., produce an oxidase enzyme which, in the presence of atmospheric oxygen, cytochrome c, and an oxidase reagent, oxidize the reagent to a colored compound, indophenol.

Quality Control

Appearance
Black coloured solution.

Clarity
Clear without any precipitate.

Cultural Response
Biochemical identification was carried out by using Gordon-McLeod Reagent (R026) and Soyabean Casein Digest Agar Plate (M290) containing 24-48 hours old culture . Place 2 to 3 drops of Gordon Mcleod Reagent (R026) on to a filter paper in a petridish. With a platinum wire loop (not nichrome), plastic loop or glass rod, smear some of the growth on Soyabean Casein Digest Agar Plate (M290) on the prepared filter paper. Observe for appearance of deep blue purple colour within 10 seconds.

Organism	Oxidase Reaction
Neisseria gonorrhoeae ATCC 19424	Positive(development of purple-blue colour)
Staphylococcus aureus ATCC 25923	Negative (No change in colour)
Pseudomonas aeruginosa ATCC 27853	Positive(development of purple-blue colour)

Storage and Shelf Life

Store between 10-30°C . Use before expiry date on label.

Reference

Jean F.Macfaddin,2000, Biochemical Tests for Identification of Medical Bacteria,3rd edition, Williams & Wilkins,Baltimore.

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HiMedia Laboratories Pvt. Ltd. A-516,Swastik Disha Business Park,Via Vadhani Ind. Est., LBS Marg, Mumbai-400086, India. Customer care No.: 022-6147 1919 Email: techhelp@himedialabs.com Website: www.himedialabs.com