TM 803 – PEPTONE IRON AGAR

INTENDED USE

For detection of hydrogen sulphide production by microorganisms.

PRODUCT SUMMARY AND EXPLANATION

The ability of certain bacterial species to liberate sulfur from sulfur-containing amino acids or other compounds in the form of hydrogen sulphide is an important characteristic for their identification. Hydrogen sulphide production can be detected by incorporating a sulfur source and an H_2S indicator system in the medium. Peptone Iron Agar which is modification of Levin`s original formula is used to detect H_2S production by organisms. This medium utilizes sodium thiosulphate, an inorganic compound as a supplemental source of sulfur and ferric ammonium citrate as the H_2S indicator in the medium. Peptone Iron Agar scores over Lead Acetate Agar, a medium to detect H_2S, in giving clear and early results. This is because ferric ammonium citrate is a better indicator of hydrogen sulphide, as compared to lead acetate.

COMPOSITION

Ingredients	Gms / Ltr
Peptic digest of animal tissue	15.000
Proteose peptone	5.000
Ferric ammonium citrate	0.500
Sodium glycerophosphate	1.000
Sodium thiosulphate	0.080
Agar	15.000

PRINCIPLE

This medium consists of Peptic digest of animal tissue and proteose peptone which provide carbonaceous and nitrogenous compounds, including trace elements. Sodium thiosulphate and ferric ammonium citrate form the H_2S detecting system. Sulphide is released from thiosulphate due to the action of bacterial enzymes. This sulphide then couples with a hydrogen ion to form H_2S, which then reacts with the ferric ions from ferric ammonium citrate to produce insoluble heavy metal sulphides that appear as a black precipitate. Sodium glycerophosphate buffers the medium.

INSTRUCTION FOR USE

- Dissolve 36.58 grams in 1000 ml distilled water.
- Heat to boiling to dissolve the media completely.
- Dispense in test tubes and sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Allow the tubed medium to cool in an upright position or in a slanting position to form slants.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Cream to yellow homogeneous free flowing powder.
Appearance of prepared medium : Light amber coloured clear to slightly opalescent gel forms in tubes as slants.
pH (at 25°C) : 6.7 ± 0.2

INTERPRETATION

Cultural characteristics observed after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	H_2S production	Incubation Temperature	Incubation Period
Escherichia coli	25922	50-100	Negative reaction, no blackening of medium	35-37°C	18-48 Hours
Enterobacter aerogenes	13048	50-100	Negative reaction, no blackening of medium	35-37°C	18-48 Hours
Salmonella Typhi	6539	50-100	Positive reaction, blackening of medium	35-37°C	18-48 Hours
Salmonella Enteritidis	13076	50-100	Positive reaction, blackening of medium	35-37°C	18-48 Hours

PACKAGING:
In pack size of 100 gm bottles.

STORAGE
Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.
Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL
After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES
1. Koneman E. W, Allen S. D., Janda W. M., Schreckenberger P. C., Winn W.C. Jr., 1992, Colour Atlas and Textbook of Diagnostic Microbiology, 4th Ed, J. B. Lippincott Company, Philadelphia.
2. Levine M., Vaughn R., Epstein S. S. and Anderson D., 1932, Proc. Soc. Exp. Biol. Med. 29:1022.
3. Levine M., Epstein S. S. and Vaughn R., 1934, Am. J. Public Health 24 :505.
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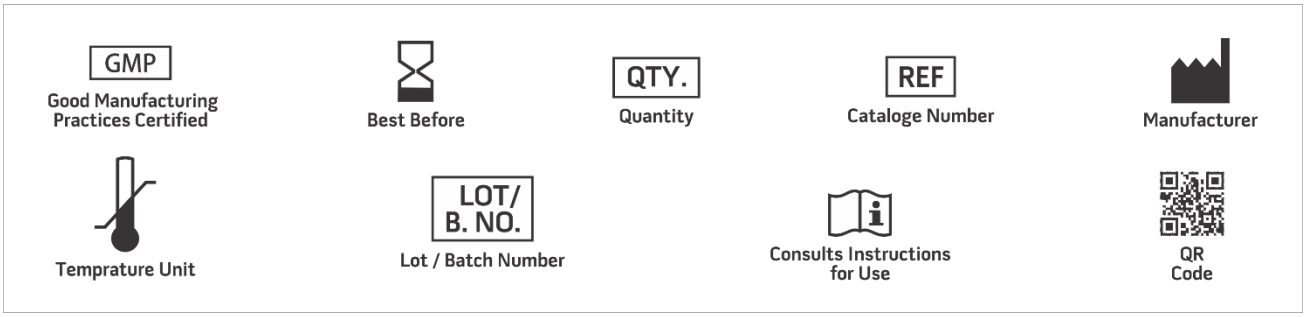

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**

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