TMV 186 - MIO MEDIUM (MOTILITY INDOLE ORNITHINE MEDIUM) (VEG.)

INTENDED USE

For identification of *Enterobacteriaceae* on the basis of motility, indole production and ornithine decarboxylase activity.

PRODUCT SUMMARY AND EXPLANATION

MIO Veg Medium is prepared by using vegetable peptones which are free of BSE/TSE risks. MIO Veg Medium is the modification of MIO Medium which was formulated by Ederer and Clark and Oberhofer and Hajkowski for detection of motility, indole and ornithine decarboxylation in single culture tube.

Organisms possessing ornithine decarboxylase, decarboxylates ornithine to putrescine which increases the pH making it alkaline, indicated by colour change from yellow to purple throughout the medium. Decarboxylase negative reaction is indicated by yellow colour or yellow with a purple band near the top of the medium. Indole is produced from tryptophan present in Veg hydrolysate. The indole produced combines with the aldehyde present in the Kovac's reagent to form a red complex.

COMPOSITION

Ingredients	Gms / Ltr
Veg hydrolysate	10.0
Veg peptone	10.0
Yeast extract	3. 0
L-Ornithine hydrochloride	5. 0
Dextrose	1. 0
Bromo cresol purple	0.02
Agar	2. 0

PRINCIPLE

Veg hydrolysate and Veg peptone provide amino acids and other nitrogenous substances. Yeast extract is the source of vitamin B complex. Dextrose is the fermentable carbohydrate. Cultures are stab-inoculated.

Motility and Ornithine decarboxylation reactions are read before testing indole production. Motile organisms show either diffused growth or turbidity extending away from stab inoculation line while non-motile organisms grow along the stab-line. Organisms ferment dextrose to form acid which causes the pH indicator bromo cresol purple to change from purple to yellow.

INSTRUCTION FOR USE

- Dissolve 31.00 grams in 1000 ml distilled water.
- Heat to boiling to dissolve the medium completely.
- Dispense in test tubes in 5 ml amounts.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Cool the tubes in an upright position.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Light yellow coloured, may have slightly greenish tinge, homogeneous, free flowing powder

Appearance of prepared medium : Purple coloured clear to slightly opalescent gel forms in tubes as butts

pH (at 25°C) : 6.5±0.2

INTERPRETATION

Cultural characteristics observed after an incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Motility	Indole production	Ornithine Decarboxylation	Incubation Temperature	Incubation Period
Escherichia coli	*25922*	50-100	luxuriant	>=70 %	positive, growth away from stabline causing turbidity	positive reaction, red ring at the interface of the medium	positive reaction, purple colour	35-37°C	40-48 Hours
Enterobacter aerogenes	*13048*	50-100	luxuriant	>=70 %	positive, growth away from stabline causing turbidity	Negative reaction	positive reaction, purple colour	35-37°C	40-48 Hours
Klebsiella pneumoniae	*13883*	50-100	luxuriant	>=70 %	negative, growth along the stabline, surrounding medium remains clear	Negative reaction	negative reaction	35-37°C	40-48 Hours
Proteus mirabilis	*25933*	50-100	luxuriant	>=70 %	motility is temperature dependent,it is more pronounced at 20°C and almost absent at 35°C	Negative reaction	positive reaction, purple colour	35-37°C	40-48 Hours

PACKAGING:

In pack size of 500 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.

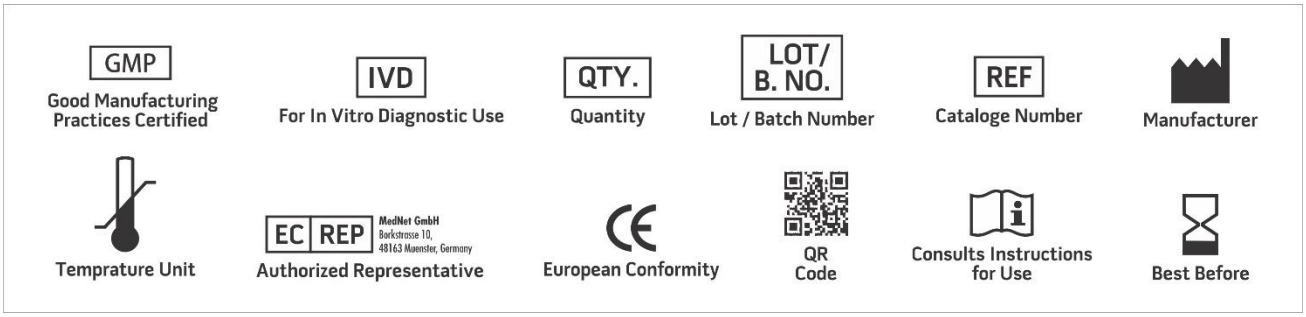
Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

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

REFERENCES

1. Ederer and Clark, 1970, Appl. Microbiol., 20:849.
2. Oberhofer and Hajkowski, 1970, Am. J. Clin. Pathol., 54:720.



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

***For Lab Use Only**

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