TM 1944 – ACETATE DIFFERENTIAL AGAR, MODIFIED

INTENDED USE

For the differentiation of *Shigella* species from *Escherichia coli* in accordance with FDA BAM.

PRODUCT SUMMARY AND EXPLANATION

Shigellosis, although commonly regarded as waterborne, is also a food borne disease majorly caused to humans. It is spread among humans by food handlers with lesser personal hygiene. *Escherichia coli* is widely distributed in the intestine of humans and is an important facultative anaerobe present in the colon area of a healthy individual. Acetate Differential Agar, Modified is recommended for the differentiation of *Shigella* species from *E. coli* in accordance with FDA BAM, 2017.

COMPOSITION

Ingredients	Gms / Ltr
Sodium acetate	2.000
Sodium chloride	5.000
Magnesium sulphate	0.200
Ammonium phosphate	1.000
Dipotassium hydrogen phosphate	1.000
Bromothymol blue	0.080
Agar	20.000

PRINCIPLE

This medium was formulated by Trabulsi and Ewing, by modifying Citrate Medium of Simmons. Most of the bacteria can utilise citrate and acetate as the carbon sources for growth in the presence of organic nitrogen, not in the absence of it. This difference in growth is helpful in differentiating *Shigella* from other closely related organisms such as *E. coli. E.coli* grows well within 24-48 hours in this media indicated by formation of blue colour. Magnesium sulphate is an essential ion. Sodium chloride maintains osmotic equilibrium and phosphates maintain the pH.

INSTRUCTION FOR USE

- Dissolve 29.28 grams in 1000 ml purified / distilled water.
- Heat to boiling to dissolve the medium completely.
- Distribute in tubes in sufficient amounts to give butt and slant.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Allow the tubes to cool in a slanted position.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Cream to light green homogeneous free flowing powder.
Appearance of prepared medium : Emerald green coloured clear to slightly opalescent gel forms in tubes as slants
pH (at 25°C) : 6.70±0.2

INTERPRETATION

Cultural characteristics observed after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Acetate utilization	Incubation Temperature	Incubation Period
Citrobacter freundii	8090	50-100	Good-luxuriant	Positive reaction, blue colour	25-30°C	1-7 Days
Enterobacter cloacae	23355	50-100	Good-luxuriant	Positive reaction, blue colour	25-30°C	1-7 Days
Escherichia coli	25922	50-100	Good-luxuriant	Positive reaction, blue colour	25-30°C	1-7 Days
Klebsiella pneumoniae	13883	50-100	Good-luxuriant	Positive reaction, blue colour	25-30°C	1-7 Days
Proteus vulgaris	13315	50-100	Inhibited	Positive reaction, blue colour	25-30°C	1-7 Days
Salmonella Arizonae	13314	50-100	Good-luxuriant	Positive reaction, blue colour	25-30°C	1-7 Days
Salmonella Typhi	19430	50-100	Poor	Positive reaction, blue colour	25-30°C	1-7 Days
Shigella sonnei	25931	50-100	None-poor	Negative reaction, no change, medium remains green	25-30°C	1-7 Days

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
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5. Talukder, K. A., Islam, M. A., Dutta, D.K., Hasan, F., Sada, A., Nair, G. and Bnd Sack, D. A. 2002. J. Clin. Microbiol, 40.
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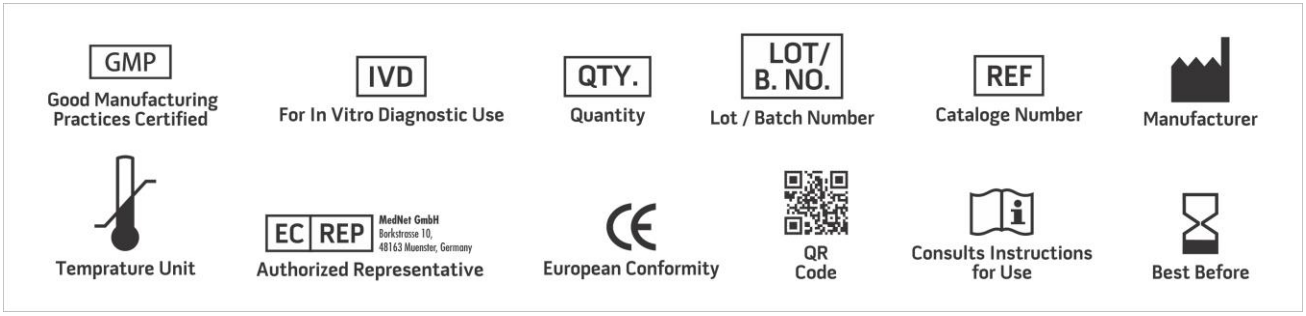

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**

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