TM 1208 - KAPER'S MEDIUM (as per APHA)

INTENDED USE
For enumeration and identification of *Aeromonas hydrophila* from foodstuffs.

PRODUCT SUMMARY AND EXPLANATION
Aeromonas hydrophila (often referred as motile aeromonads) is a facultative anaerobe, which is characterized by growth at 37°C and motility. The detection of *Aeromonas* species in foods and environmental samples is usually quite easy. However, difficulties may arise when quantitative recovery is required or in cases where large number of other organisms are present. Kaper et al described a single tube medium for the rapid presumptive identification of *A. hydrophila*, which is also recommended by APHA. This single tube medium shows the following reactions: mannitol and inositol fermentation, ornithine decarboxylation and deamination, motility, indole and H2S production. The food samples should be processed as soon as possible upon arrival at the laboratory. Motile aeromonads are somewhat sensitive to pH values below 5.5; therefore, acidic foods should be processed soon after arrival in the laboratory. On the basis of biochemical characterization, *Aeromonas* can be differentiated as mannitol fermenters, inositol non-fermenters, absence of ornithine decarboxylase, and hydrogen sulfide not produced from thiosulphate. Usually in tubes containing Kapers Medium inoculated with *A. hydrophila*, the butts turn yellow due to acid formation and an alkaline band is formed at the top of the medium. Small amount of agar facilitates motility determination.
A. hydrophilla is inoculated in Kapers Medium for the verification of the isolates. After 18-24 hours, *Aeromonas* shows motility, are H2S negative and indole positive (add 2 drops of Kovacs Reagent to the tubes and look for a red colour).

COMPOSITION

Ingredients	Gms / Ltr
Proteose peptone	5.000
Yeast extract	3.000
Casein enzymic hydrolysate	10.000
L-Ornithine hydrochloride	5.000
Mannitol	1.000
Inositol	10.000
Sodium thiosulphate	0.400
Ferric ammonium citrate	0.500
Bromocresol purple	0.020
Agar	3.000

PRINCIPLE
Casein enzymic hydrolysate, proteose peptone and yeast extract provide essential nitrogenous compounds and B vitamin etc. Sodium thiosulphate and ferric ammonium citrate acts as indicators of H2S production. Inositol and mannitol are the fermentable carbohydrates; L-ornithine hydrochloride is an amino acid. Bromocresol purple is the pH indicator, which is yellow at acidic pH and purple at neutral to alkaline pH values.

INSTRUCTION FOR USE
- Dissolve 37.92 grams in 1000 ml distilled water.
- Heat to boiling to dissolve the medium completely.
- Dispense into tubes (5 ml).
- Sterilize by autoclaving at 15 psi pressure (121°C) for 12 minutes.

QUALITY CONTROL SPECIFICATIONS

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

INTERPRETATION

Cultural characteristics observed after an incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Medium	Incubation Temperature	Incubation Period
Aeromonas hydrophila	7966	50-100	Luxuriant	Acidic butt, with alkaline band at the top	35-37°C	24-48 Hours

PACKAGING:

In pack size of 500 gm bottles.

STORAGE

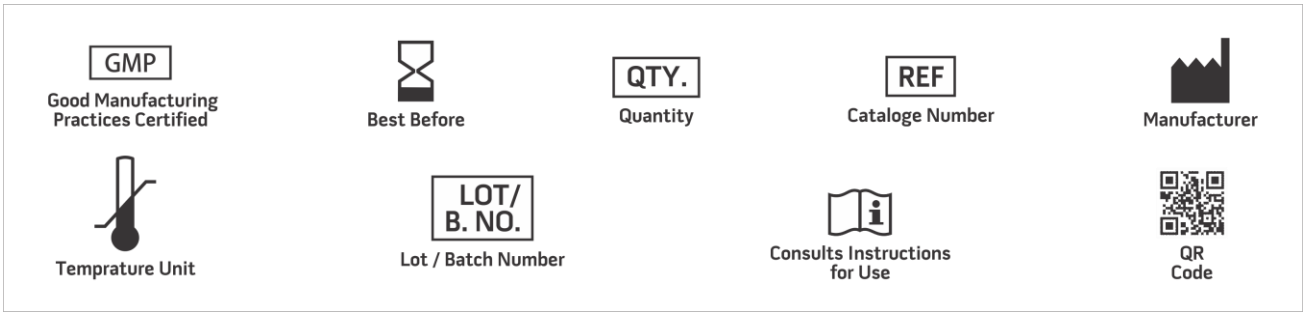
Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided 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. Corry J. E. L., Curtis G. D. W., and Baird R. M., Culture Media for Food Microbiology, Vol. 34, Progress in Industrial Microbiology, 1995, Elsevier, Amsterdam.
2. Kaper J., Seidler R. J., Lockman H. and Colwell R. R., 1979, Appl. Environ. Microbiol., 38:1023.
3. Downes F. P. and Ito K., (Eds.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th Ed., APHA, Washington, D.C.



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

***For Lab Use Only**
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