CM 20,044 – AKI MEDIUM

INTENDED USE

For identification of Vibrio species in accordance with FDA.

PRODUCTSUMMARYANDEXPLANATION

V.cholerae, the type species of thegenus Vibrio, is the causative agent of cholera outbreaks and epidemics. Cholera enterotoxin (CT) is the primary virulence factor of these organisms. Most strains of V. cholerae isolated from foods or environment do not produce choleare toxin and are not considered to be virulent. Various biochemical properties and antigenic types are used to characterize the species. V. mimicus has been associated with diarrhoea following consumption of raw or undercooked seafood. Hence isolates of Vibrio should be tested for the production of CT or CTX gene. AKI medium is used for the serological identification of CT of these organisms in accordance with FDA BAM, 1998. After enrichment plating, screening and confirmation of the toxins can be done by Y-1 mouse adrenal cell assay and immunoassay methods.

Blend the food sample to be analysed with Alkaline peptone water (APW) in appropriate ratio and incubate as per the recommendation by FDA BAM. Pure cultures can be isolated from APW by plating a loopful of the inoculums into TCBS agar. Crowded colonies are separated using Tryptone salt agar, w/ 1% NaCl. For immuno assays, Inoculate, test cultures into AKI medium and incubate at 35 ±2°C 18 h with shaking at 100 rpm. Centrifuge 5 to 7 ml of culture at 8,000 x g for 10 min. Filter sterilize the supernatant through a 0.2 µm filter or used as is for immunological assays for the presence of cholera toxin (CT).

COMPOSITION

Ingredients	Gms / Ltr
Peptone	15.000
Yeast extract	4.000
Sodium chloride	5.000

PRINCIPLE

Peptone and Yeast extract provide necessary nutrients and Sodium chloride maintains the osmotic equilibrium of the medium.

INSTRUCTION FORUSE

Dissolve 24.0gms in 970ml purified / distilled water.
Heat if necessary to dissolve the medium completely.
Sterilise by autoclaving at 15 psi pressure (121°C) for 15 minutes.
Cool to 45-50°C and add 30ml of freshly prepared, filter sterilised $NaHCO_3$ and mix.
Adjust the final pH 7.4 ± 0.2. Dispense aseptically into screw capped tubes.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: Cream to yellow homogeneous free flowing powder.
Appearance of prepared medium	: Light yellow coloured clear solution without any precipitate.
pH (at 25°C)	: 7.4±0.2

INTERPRETATION

Culturalcharacteristics observed after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Incubation Temperature	Incubation Period
Vibrio cholerae	14035	50-100	Luxuriant	35-37°C	24-48 Hours
Vibrio parahaemolyticus	17802	50-100	Luxuriant	35-37°C	24-48 Hours

PACKAGING:

Inpacksizeof500 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.

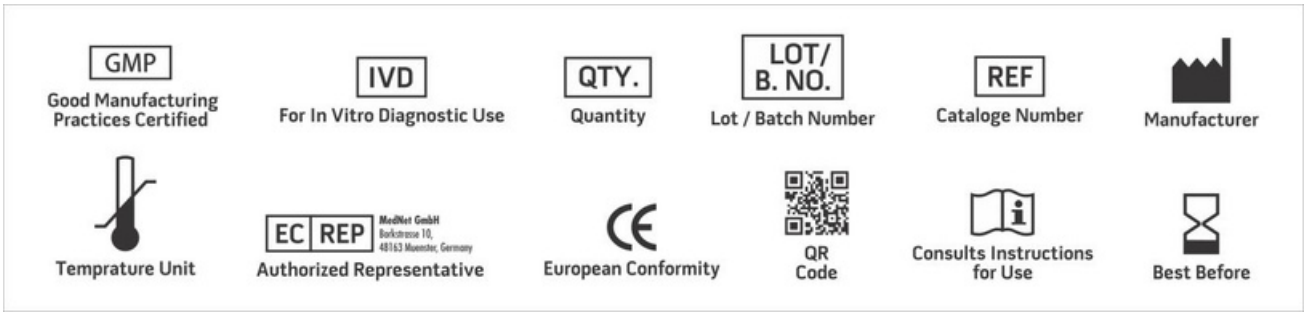
Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

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

REFERENCES

1. FDA, U.S. 1998. Bacteriological Analytical Manual. 8 ed. Gaithersburg, MD: AOAC International.
2. Karaolis, D. K., Johnson, J.A., Bailey, C.C., Boedeker, E.C., Kaper, J.B. and Reeves, P.R 1998. Proc. Natl. Acad. Sci. U. S. A., 95(6): 3134-3139
3. Spira, W. M . and Fedorka-Cray, P.J. 1984. Infect. Immun, 45: 679-684.



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

*For LabUse Only