

TM 1505 -L-ARGININE DIHYDROLASE MEDIUM, MODIFIED (ISO 22964:2006)

INTENDED USE

For confirmation of *Enterococcus sakazakii* from milk and milk products

PRODUCT SUMMARY AND EXPLANATION

L- ARGININE DI HYDROLASE MEDIUM, MODIFIED (AS PER ISO) is used for the confirmation of *Enterococcus* from milk and milk products, in accordance with ISO specifications. This medium was first described by “Moeller” for detecting lysine and ornithine decarboxylase and arginine dihydrolase. Members of *Enterobacteriaceae* family are detected in this medium on the basis of their ability to decarboxylate arginine.

COMPOSITION

Ingredients	Gms / Ltr
L-Arginine mono hydrochloride	5.000
Yeast extract	3.000
Glucose	1.000
Bromocresol purple	0.015

PRINCIPLE

The yeast extract makes this media nutritious by providing necessary nutrients for the growth of microorganisms. Glucose acts as an energy source. L-arginine stimulates the arginine dihydrolase synthesis which helps in detection of *Enterobacter* species. Bacteria producing arginine dihydrolase enzyme, decarboxylates arginine to putrescine and this amine elevates the pH of the medium. An elevation of the pH is detected by the indicator, bromocresol purple which forms purple in alkaline condition. Colour change from purple to yellow and then back to purple is considered a positive reaction.

INSTRUCTION FOR USE

- Dissolve 9.01 grams in 1000ml distilled water.
- Gently heat to boiling with swirling to dissolve the medium completely.
- Dispense in tubes.
- Sterilize by autoclaving at 15 psi (121°C) for 15 minutes.
- Cool 45-50°C prior use.

QUALITY CONTROL SPECIFICATIONS

Appearance of Dehydrated powder	:	Light yellow to grey, homogeneous free flowing powder
Appearance of Prepared medium	:	Purple colour, clear solution
pH (at 25°C)	:	6.8± 0.2

INTERPRETATION

Cultural characteristics observed after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Arginine Dihydrolase	Recovery	Incubation Temperature	Incubation Period
<i>Enterobacter sakazakii</i>	12868	50-100	Good-Luxuriant	+	≥70%	35-37°C	18 – 24 Hours
<i>Enterobacter aerogenes</i>	13048	50-100	Good-Luxuriant	-	≥70%	35-37°C	18 – 24 Hours



<i>Klebsiella pneumoniae</i>	13883	50-100	Good-Luxuriant	-	$\geq 70\%$	35-37°C	18 – 24 Hours
<i>Proteus vulgaris</i>	13315	50-100	Good-Luxuriant	-	$\geq 70\%$	35-37°C	18 – 24 Hours
<i>Salmonella typhi</i>	6539	50-100	Good-Luxuriant	+	$\geq 70\%$	35-37°C	18 – 24 Hours
<i>Salmonella Typhimurium</i>	14028	50-100	Good-Luxuriant	+	$\geq 70\%$	35-37°C	18 – 24 Hours

+ = Positive Reaction, Purple Colour
- = Negative Reaction, Yellow Colour

PACKAGING:

In 500 gm packaging size.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers below 25°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 powder show evidence of microbial contamination, discoloration, drying, or other signs of deterioration.

DISPOSAL

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

REFERENCES

1. Collee J. G., Duguid J. P., Fraser A. G., Marmion B. P., (Eds.), Mackie and McCartney, Practical Medical Microbiology, 1989, 13th Edition, Churchill Livingstone
2. ISO 22964 2006 Milk and milk products -- Detection of *Enterobacter sakazakii*.
3. Moeller V., 1954, Acta. Pathol. Microbiol. Scand., 34:102.

 GMP Good Manufacturing Practices Certified	 Best Before	 QTY. Quantity	 REF Catalogue Number	 Manufacturer
 Temperature Unit	 LOT/ B. NO. Lot / Batch Number	 Consults Instructions for Use	 QR Code	

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

***For Lab Use Only**

Revision: 8th July 2020