

TM 202 – MALONATE BROTH

INTENDED USE

For differentiation of *Enterobacter* and *Escherichia* species on the basis of malonate utilization.

PRODUCT SUMMARY AND EXPLANATION

Leifson developed a synthetic liquid medium, which differentiated *Aerobacter* (now *Enterobacter*) from *Escherichia* species based on their ability to utilize malonate where *Enterobacter* utilizes malonate and *Escherichia* does not.

COMPOSITION

Ingredients	Gms / Ltr
Part I	
Ammonium sulphate	2.000
Dipotassium phosphate	0.600
Monopotassium phosphate	0.400
Sodium chloride	2.000
Bromothymol blue	0.025
Part II	
Sodium malonate	3.000

PRINCIPLE

An organism that can simultaneously utilize sodium malonate as its carbon source and ammonium sulfate as its nitrogen source produces alkalinity due to the formation of sodium hydroxide. The alkali changes the color of the bromothymol blue indicator in the medium to light blue and finally to prussian blue. The color of the medium remains unchanged in the presence of an organism that cannot utilize these substances. Also some malonate-positive organisms produce only a slight alkalinity that causes the results to be difficult to interpret. Therefore, these tubes should be compared with an un-inoculated malonate tube.

INSTRUCTION FOR USE

- Dissolve 5.02 grams of part I with 3.0 grams of part II in 1000 ml distilled water.
- Dispense and sterilize by autoclaving at 15 psi (121°C) for 15 minutes. Avoid the addition of carbon and nitrogen from other sources.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Light yellow to light green homogeneous free flowing powder.
Appearance of prepared medium : Bluish green coloured clear solution without any precipitate.
pH (at 25°C) : 6.7 ± 0.2

INTERPRETATION

Cultural characteristics observed after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Malonate Utilization	Incubation Temperature	Incubation Period
<i>Escherichia coli</i>	25922	50-100	Luxuriant	Negative reaction	35-37°C	18-48 Hours
<i>Klebsiella aerogenes</i>	13048	50-100	Luxuriant	positive reaction, dark blue colour	35-37°C	18-48 Hours
<i>Klebsiella pneumoniae</i>	13883	50-100	Luxuriant	positive reaction, dark blue colour	35-37°C	18-48 Hours
<i>Salmonella Arizona</i>	13315	50-100	Luxuriant	positive reaction, dark blue colour	35-37°C	18-48 Hours

PACKAGING:

In pack size of 100 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. Leifson, 1933, J. Bact., 25:329.
2. MacFaddin J., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. I, Williams and Wilkins, Baltimore.

 Good Manufacturing Practices Certified	 For In Vitro Diagnostic Use	 Quantity	 Lot / Batch Number	 Catalogue Number	 Manufacturer
 Temperature Unit	 Authorized Representative	 European Conformity	 QR Code	 Consults Instructions for Use	 Best Before

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



*For Lab Use Only
Revision: 08 Nov., 2019

