

# Product Name : Phenylalanine Malonate Broth

Medium for the differentiation of Gram-negative enteric bacteria.

## TYPICAL FORMULA (G/L)

Yeast Extract ..... 1.0  
Ammonium Sulphate ..... 2.0  
Dipotassium Phosphate .....0.6  
Monopotassium Phosphate ..... 0.4  
Sodium Chloride ..... 2.0  
Sodium Malonate ..... 3.0  
DL-Phenylalanine .....2.0  
Brom Thymol Blue .....0.025  
Final pH = 6.3 ± 0.2 at 25°C.

## DIRECTIONS

Suspend 11.02 G of powder in 1 L of distilled or deionized water. Heat until completely dissolved. Dispense into final tubes. Sterilize in autoclave at 115°C for 10 minutes.

## DESCRIPTION

Phenylalanine Malonate Broth is a medium recommended for the differentiation of Gram-negative enterobacteria on the basis of their ability to utilize sodium malonate as the only source of carbon, ammonium sulfate as the only source of nitrogen, and phenylalanine to form pyruvic acid.

## TECHNIQUE

Inoculate the medium and incubate at 36 ± 1°C for 18-24 hours. Organisms capable of utilizing malonate produce an alkaline reaction changing the colour of the medium from light green to dark blue. Malonate negative organisms leave the medium a light greenish color. Members of the *Proteus* and *Providencia* groups are capable of forming pyruvic acid from phenylalanine. The production of this material is determined by the addition of 3-5 drops of Ferric Chloride 10% (MB-F1870) to a 24 hours culture. Organisms producing pyruvic acid from phenylalanine give a deep green color; phenylalanine negative organisms show no change in color.

## QUALITY CONTROL

### Dehydrated medium

Appearance: free-flowing, homogeneous.

Color: yellowish beige.

### Prepared medium

Appearance: clear.

Color: yellowish green.

Incubation conditions: 36 ± 1°C /18-24 hours.

Microorganism	ATCC	Growth	Malonate	Phenylalanine
<i>Escherichia coli</i>	25922	good	-	-
<i>Salmonella typhimurium</i>	14028	good	-	-
<i>Proteus mirabilis</i>	25933	good	-	+
<i>Klebsiella pneumoniae</i>	13883	good	+	-

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## STORAGE

The powder is very hygroscopic: store the powder at room temperature, in a dry environment, in its original container tightly closed and use it before the expiry date on the label or until signs of deterioration or contamination are evident. Store prepared medium at 2-6°C.

## REFERENCES

1. Ewing., W.H., B.R. Davis, and R.W. Reavis (1975). Phenylalanine and malonate media and their use in enteric bacteriology. *Publ.Health. Lab*, 15, 153.
2. Shaw, C., and Clarke, Ph.H. (1955). *J. Gen. Microbiol.* 13: 155-161.

## PACKAGING

Cat. No : MB-P1075 Phenylalanine Malonate Broth	500 G
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