

Base for amino acid decarboxylation tests.

Formula in g/L			
Peptone.....	5,00	Glucose	5,00
Piridoxal.....	0,005	Beef extract.	5,00
Bromocresol purple.....	0,01	Cresol red.....	0,005

Final pH at 25°C: 6,0 ± 0,2

Principle:

Decarboxylase Moeller Base Broth is the base for amino acid decarboxylation tests for the identification of Enterobacterales. Arginine, lysine and ornithine are converted to the correspondent amines.

Preparation: suspend 10,5 grams of the medium in one liter of distilled water. Mix well and add 1% (v/v) suitable amino acids. Dispense into test tubes and add parafin oil (approx 0,5 ml). Sterilize in autoclave at 121°C for 15 minutes.

Procedure:

The three sets of tubes containing respectively the three amino acids are inoculated with the organism by using a needle, covered with 4-5ml of mineral oil and incubated at 37°C for 4 days. Carry out the relevant checks by using tubes inoculated without the amino acids and daily check the colour change of the medium in all the tubes. Moeller medium contains bromocresol purple and bromocresol red and is violet coloured. Glucose present in both media is fermented by all the enterobacteria with colour change of the indicator system from violet to yellow. The medium, when made acidic, allows the amino acid decarboxylation reactions with formation of amines (cadaverine from lysine, putrescine from arginine and ornithine). These amines make the medium alkaline and cause a new colour change of the indicator from yellow to violet or purple. The negative reaction is therefore given by the appearance of a yellow colour in the tube, the positive reaction by a violet or purple colour. The following table summarises the reactions given by a few organisms.

Result:

Microorganisms	Lysine	Ornithine	Arginine
Escherichia coli	+	Var.	Var.
Enterobacter cloacae		+	+
Enterobacter aerogenes	+	+	-
Edwardsiella tarda	+	+	-
Salmonella Typhi	+	-	Var.
Citrobacter freundii	-	Var.	Var.
Proteus vulgaris	-	-	-
Proteus mirabilis	-	+	-
Serratia liquefaciens	Var.	-	-
Serratia marcescens	+	+	-
Klebsiella pneumoniae	-	+	-

Var. -variable

Storage / Shelf life

- ★ Once opened keep powdered medium closed to avoid hydration at 2 - 30°C
- ★ The expiration date is indicated on the label.

Packaging: 500 g

