



Pedi-Lacto Selective Agar Base, Modified

M1815

Pedi-Lacto Selective Agar Base, Modified is a selective medium used for the detection of contaminating/spoilage microorganisms in beer.

Composition**

Ingredients	Gms / Litre
Tomato juice	7.280
Dextrose	13.640
Yeast extract	3.640
Maltose	15.000
Peptone special	5.000
Potassium acetate	3.000
Beef extract	2.000
Dipotassium hydrogen phosphate	0.182
Monopotassium hydrogen phosphate	0.182
Magnesium sulphate	0.073
Sodium chloride	0.004
Ferrous sulphate	0.004
Manganese sulphate	0.004
L-Malic acid	0.500
Tween 80	0.500
L-Cysteine HCL	0.200
Agar	15.000
Final pH (at 25°C)	5.6±0.1

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 66.20 grams in 750 ml distilled water. Heat to boiling with frequent agitation to dissolve the medium completely . Add 250 ml of degassed beer. Mix thoroughly Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Principle And Interpretation

Beer usually does not support the growth of microorganisms due to its ethanol concentration, low pH, high carbon dioxide concentration and extremely low oxygen content. Only a few Gram-positive and Gram-negative species are generally regarded as the most threatening contaminants in the brewery Most hazardous microorganisms are gram positive bacteria belonging to the genera *Lactobacillus* and *Pediococcus* and are often referred to as lactic acid bacteria and is estimated for 60–70% of all spoilage incidents (1,2).

This medium was developed by Barney for the detection of spoilage organisms in beer (3). It selectively supports the growth of lactic acid bacteria.

The medium contains peptone special, yeast extract,beef extract, dextrose and maltose which provides nitrogenous, carbonaceous and other essential nutrients for the growth of spoilage organisms. Potassium acetate and Malic acid seve as selective agents. L-Cysteine HCL is growth promoter. Tween 80 acts as an surfactant.

Quality Control

Appearance

Light yellow to greyish yellow free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel.

Colour and Clarity of prepared medium

Light to medium amber coloured clear to slightly opalescent gel forms in Petri plates

Reaction

Reaction of 6.62% w/v aqueous solution at 25°C. pH : 5.6±0.1

pH

5.50-5.70

Cultural Response

M1815: Cultural characteristics observed after an incubation at 30-35°C for 4 days, when incubated anaerobically.

Organism	Inoculum (CFU)	Growth
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Cultural Response

<i>Lactobacillus brevis</i> ATCC 8291	50-100	good
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<i>Pediococcus acidilactici</i> ATCC 8042	50-100	good
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<i>Pediococcus damnosus</i> ATCC 29358	50-100	good
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<i>Lactobacillus delbrueckii</i> ATCC 9649	50-100	good
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Storage and Shelf Life

Store below 30°C in tightly closed container and prepared medium at 2-8°C. Use before expiry period on the label.

Reference

1. Menz, G., Aldred, P. and Vriesekoop, F., Pathogens in beer. In: Beer in Health and Disease Prevention, V. R. Preedy, Ed., Academic Press: Amsterdam, 2009, pp. 403-413.
2. Back, W., Secondary contaminations in the filling area. Brauwelt Int., 1994, 12, 326-333.
3. Barney, M.C., E.J. Kot and E. Chicoye. 1990. Culture medium for the detection of beer spoilage microorganisms.

Revision : 2 / 2015

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