

Cled agar with Andrade Indicator

REF.	Pack size
1419 001	100 gm
1419 002	500 gm

Intended Use

CLED Agar with Andrade indicator is a differential culture medium intended for enhance the differentiation of colony characteristics

Background

CLED Agar is an abbreviation for Cystine Lactose-Electrolyte-Deficient Agar. Sandys developed an electrolyte-deficient medium that prevented Proteus sp. from swarming. The formula for this medium is similar to that for CLED Medium BTB, but with the addition of acid fuchsin which enhances the colonial appearance and aids in identification of the organisms. The color of the medium differs from that of the standard medium at various pH levels.

Principle

The essential growth nutrients are supplied by peptone, tryptone and beef extract. Lactose is the carbohydrate source. L-cystine permits the growth of "dwarf colony" coliforms. Bromothymol blue Andrade Indicator are used as the pH indicator to differentiate lactose fermenters from non-lactose fermenters. Organisms that ferment lactose will lower the pH and change the colour of the medium from green to Bright pink. Electrolyte sources are reduced in order to restrict the swarming of Proteus species.

Components	gm/Liter
Beef Extract	3.0
Peptone	4.0
Tryptone	4.0
Andrade Indicator	0.10
Bromothymol Blue	0.02
L-Cysteine	0.128
Lactose	10.0
Agar	15.0

Final pH (at 25°C) 7.5 ± 0.2










Preparation, Storage and Stability

Store the dehydrated medium at 10-30°C and use before the expiry date on the label. Store the prepared medium at 2-8°C After the desired amount of medium is taken out, replace the cap tightly to protect from hydration.

Procedure

1. Suspend 36.25 g of the powder in 1 L distilled water and mix well.
2. Heat with frequent agitation to dissolve the powder completely.
3. Sterilize by autoclaving at 121°C for 15 minutes.
4. Cool to 45-50°C and pour into sterile petri plates.

SYMBOLS IN PRODUCT LABELLING

	Authorized Representative		Temperature Limitation
	For in-vitro diagnostic use		Use by/Expiration Date
	Batch Code/Lot number		CAUTION. Consult instructions for use
	Catalogue Number		Manufactured by
	Consult instructions for use		

Quality Control

Appearance

1-Dehydrated Appearance : off white colored, homogeneous, freeflowing powder.

2- Prepared Appearance : blue green colored, slightly opalescent gel.

3- Cultural Response : Cultural characteristics after 18-24 hours at 30-35°C (As per pharmacopeia or 35± 2°C for clinical specimens)

Organisms (ATCC)	Growth	Colour of the Colony
<i>Escherichia coli</i>	Good	Bright pink with pink halo
<i>Staphylococcus aureus</i>	Good	Golden Yellow
<i>Enterococcus faecalis</i>	Good	Yellow, green or orange
<i>Proteus mirabilis</i>	Good	Blue-green
<i>Streptococcus pyogenes</i>	Good	Greyish green
<i>Klebsiella aerogenes</i>	Good	Greyish green

Interpretation of the results

1. Count the number of colonies on the dipstick. Multiply by dilution factor to convert the count to CFU per ml of the sample.
2. Contaminant bacteria usually appear in low numbers and vary in colony morphology

Precautions

1. Factors that may cause urine counts from infected patients to be low include: rapid rate of urine flow, prior initiation of antimicrobial therapy, a urine pH of less than 5 and a specific gravity of less than 1.003.
2. The medium should not be incubated for more than 24 hours since, if lactose fermenters predominate, the whole medium may turn pink, masking the presence of non-lactose fermenters

Bibliography

1. Sandys, 1960, J. Med. Lab. Technol., 17:224.
2. Mackey and Sandys, 1965, Br. Med. J., 2:1286.
3. MacKey and Sandys, 1966, Br. Med. J., 1:1173.
4. Dixon J. M. S. and Clark M. A., 1968, Conc. Med. Assoc. J., 99 (15).

