



Crystal Violet Lactose Agar

M897

Crystal Violet Lactose Agar is used for differentiation of pure cultures of pathogenic and nonpathogenic Staphylococci.

Composition**

Ingredients	Gms / Litre
Proteose peptone	5.000
Beef extract	3.000
Lactose	10.000
Crystal violet	0.0033
Agar	15.000
Final pH (at 25°C)	6.8±0.1

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 33 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C. Mix well and pour into sterile Petri plates.

Principle And Interpretation

Crystal Violet Lactose Agar was recommended by Chapman (1) for the differentiation of pure cultures of pathogenic from nonpathogenic strains of Staphylococci.

The toxicity of Staphylococci is estimated on the basis of their pigment production, haemolytic and coagulating characteristic. In the study of the correlation between haemolytic and coagulase activities, animal inoculation and other tests, Chapman and Berens (2, 3) reported that Staphylococci produced different coloured growths when cultured on Crystal Violet Agar. Haemolytic and coagulating strains produced purple to violet colour whereas non-hemolytic and non-coagulating strains produced white colonies after incubation. Crystal violet inhibits most of the gram-positive organisms and is markedly inhibitory to Staphylococci. A fair growth can be obtained at a 1: 300,000 concentration of the dye when the medium is inoculated heavily. So, this medium is used for study of pure cultures where a mass inoculation can be used rather than for primary isolation.

The media contains proteose peptone and beef extract as sources of carbon, nitrogen, vitamins and minerals. Lactose is the carbon and energy source.

Quality Control

Appearance

Light yellow to light tan homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium

Light purple coloured, clear to slightly opalescent gel forms in Petri plates

Reaction

Reaction of 3.3% w/v aqueous solution at 25°C. pH : 6.8±0.1

pH

6.70-6.90

Cultural Response

Cultural characteristics observed after an incubation at 35-37°C for 40-48 hours.

Cultural Response

Organism	Inoculum (CFU)	Growth	Recovery	Colour of colony
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Cultural Response

<i>Escherichia coli</i> ATCC 25922	50-100	luxuriant	>=50%	purple
<i>Staphylococcus aureus</i> ATCC 25923	50-100	fair-good	30-40%	light yellow
<i>Staphylococcus epidermidis</i> ATCC 12228	50-100	fair - good	30-40%	purple/ very slightly yellow
<i>Streptococcus pyogenes</i> ATCC 19615	50-100	none - poor	0 -10 %	colourless

Storage and Shelf Life

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

Reference

1. Chapman, 1936, J. Bact., 32:199.
2. Chapman, Berens. Peters and Curcio, 1934, J. Bact., 28:343.
3. Chapman and Berens, 1935, J. Bact., 29:437.

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