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MAST® *ID* Citrate Agar

IDM23/A/NCE

Intended use
Citrate Agar dehydrated culture medium powder is intended for use to produce a medium to aid differentiation of members of the Enterobacterales family based on their ability to ability to utilize citrate incorporated into the basal medium as a source of energy and also the inorganic ammonium salts as the sole source of nitrogen. When prepared in accordance with the instructions for use, it produces a semi-solid medium capable of supporting the growth of Enterobacterales. The metabolic action of the organism able to utilize the citrate substrate results in the ammonium salts being broken down to ammonia, which increases alkalinity. The shift in pH, detected by a pH indicator dye, turns the medium blue, which is interpreted as a positive result. This medium can also be used in conjunction with additional identification products to produce a phenotypic biochemical profile of the bacterial isolate in order to generate specific fingerprints or datasets that can be used, for example, to detect or rule out cross-infection or elucidate bacterial transmission.

Citrate Agar is intended to be used in conjunction with other phenotypic tests to aid epidemiological typing of previously isolated and identified pure cultures of members of the Enterobacterales family derived from, animal, food, environmental or human samples. It is a non-automated, qualitative device, intended to be used by professional, trained laboratory users for *in vitro* use and is not intended for use in the diagnosis of disease or other conditions in humans or as the basis of treatment or case management decisions.

Contents
See pack label.

Formulation*

Material:	Concentration in medium:
Magnesium sulphate	0.2 g/litre
Ammonium di hydrogen phosphate	0.2 g/litre
Tri sodium citrate	2.0 g/litre
Sodium ammonium Phosphate	0.8 g/litre
Sodium Chloride	5.0 g/litre
Bromothymol blue	0.1 g/litre
Agar	25.0 g/litre
Final pH: 6.8 ± 0.2	

Storage and shelf life
All dehydrated culture media containers should be kept tightly closed and stored in a dry place at 10 to 25°C until the expiry date shown on the pack label.

Precautions
For *in vitro* use only. Observe approved hazard precautions and aseptic techniques. To be used only by adequately trained and qualified laboratory personnel. Sterilise all biohazard waste before disposal. Refer to Product Safety Data sheet (available on request or via MAST® website). Citrate Agar is not intended for use in the diagnosis of disease or other conditions in humans.

Materials required but not provided
Standard microbiological supplies and equipment such as loops, swabs, applicator sticks, incinerators and incubators, etc.

Procedure
1. Refer to pack label for quantities and volumes required. Prepare MAST® *ID* Citrate Agar (IDM23/A) by suspending the powder in distilled or deionised water. For sachet packs, dissolve the entire contents of the sachet in the volume shown on the label.
2. Sterilise by autoclaving at 121°C (15 p.s.i.) for 15 minutes.
3. Mix well and pour culture plates (15 to 20ml per plate) into Petri dishes which have been labelled using the self-adhesive labels provided. Self adhesive labels are provided in each box of preweighed sachets.
4. Prepared culture plates may be used immediately or stored in plastic bags at 2 to 8°C for up to one week.
5. Prepare a suspension of each organism equivalent in density to a 0.5 McFarland standard. Inoculate the surface of a well-dried plate using a replicating device, e.g. the SCANURIDOT Multipoint Inoculator, to deliver each inoculum onto the agar surface.
6. Multipoint Inoculator, to deliver each inoculum onto the agar surface.
7. Allow the inoculum drops to dry before disturbing and incubate plates aerobically for 18 to 24 hours at 35 to 37°C.

Interpretation of results
After incubation record growth and colour development in the medium. A positive result indicating utilisation of citrate is shown by a colour change to blue. A negative result is no change from the original green.

Quality control
Check for signs of deterioration. Quality control must be performed with at least one organism to demonstrate expected performance. Do not use the product if the result with the control organism is incorrect. The list below illustrates a range of performance control strains which the end user can easily obtain.

Test Organisms	
Escherichia coli ATCC® 25922	Negative
Salmonella typhimurium ATCC® 14028	Positive
Enterobacter aerogenes ATCC® 13048	Positive

References
Bibliography available on request.

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*Formulation may change to meet performance criteria