

## MAST® /D ADH Agar

### IDM22/A/NCE

#### Intended use

ADH 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 utilise an amino acid, arginine. 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 an organism able to utilise arginine produces ammonia through the action of the enzyme, arginine dihydrolase. Increased pH of the medium, which is interpreted as a positive result, is detected by red/brown colour of the pH indicator, m-cresol purple. Negative organisms produce a yellow coloration from a fermentation reaction. 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.

ADH 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:
Peptone mixture	5.0g/litre
Yeast extract	3.0g/litre
Glucose	5.0g/litre
L-arginine hydrochloride	10.0g/litre
m-cresol purple	0.1g/litre
Agar	24.0g/litre
Final pH: 7.8 ± 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). ADH 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® /D ADH Agar (IDM22/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. Do not overheat any carbohydrate-containing medium.
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. Allow the inoculum drops to dry before disturbing and incubate plates aerobically for 18 to 24 hours at 35 to 37°C (or alternative temperatures according to the methodology followed).

#### Interpretation of results

After incubation record growth and colour development in the medium. A positive result is indicated by a red/brown colour and a negative result by a yellow colour.

#### 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	Result
<i>Escherichia coli</i> ATCC® 25922	Positive
<i>Pseudomonas aeruginosa</i> ATCC® 27853	Positive
<i>Shigella sonnei</i> ATCC® 25931	Positive
<i>Proteus mirabilis</i> ATCC® 29906	Negative
<i>Klebsiella pneumoniae</i> ATCC® 13883	Negative

#### References

Bibliography available on request.