MAST® Culture Media and Supplements

Technical Information Sheet

Product Code DM 230

X.L.D. Agar

An improved medium for the isolation of enteric pathogens.

1. Description

Taylor[1] designed X.L.D. Agar to give improved isolation of shigellae without affecting salmonellae isolation and more recent studies have demonstrated its efficacy.[2-6] Unlike most enteric pathogens, shigellae and providenciae do not ferment xylose, and although *Salmonella* and Arizona groups do, they are made to appear as non-xylose fermenters by the presence of lysine in the medium. After fermentation of xylose is complete, lysine is decarboxylated and the colonies revert to an alkaline pH. Many other Gram negative xylose fermenters also ferment sucrose and/or lactose, so they do not revert to an alkaline pH.

2. Technical Formula*

Formula	grams per litre
Peptone	1.0
Yeast extract	2.0
Lactose	7.5
Sucrose	7.5
Xylose	3.75
L-Lysine	5.0
Sodium chloride	5.0
Sodium thiosulphate	4.34
Ferric ammonium citrate	0.8
Sodium desoxycholate	1.0
Phenol red	0.072
Agar	15.0
pH approx.7.3	

3. Directions

1. Suspend by swirling 53g of powder in 1 litre or the contents of the sachet in the stated volume of distilled or deionised water in a large flask.

2. Allow to stand for 15 minutes and bring to the boil until completely dissolved. DO NOT AUTOCLAVE.

3. Allow to cool to about 50ºC, mix well and pour plates.

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*Formulation may be modified to meet performance criteria

4. In Use

The medium is inoculated with the sample and incubated for 18-24 hours. Non-xylose fermenters e.g. salmonellae and shigellae appear as red colonies. Certain salmonellae produce H_2S and give black centred colonies, but some H_2S producing non-pathogens do not, because of the acidity.

Commensal organisms, if they are not inhibited, ferment one of the sugars and so appear as yellow colonies. It is important that incubation is not continued beyond 24 hours as this allows reversion of pH in non-pathogens.

5. References

1. Taylor WI. *Am J Clin Path*. 1965; **44:** 471-475

2. Taylor WI, Harris B. *Am J Clin Path*. 1965; **44:** 476-479

3. Taylor WI, Harris B. *Am J Clin Path*. 1965; **48**: 350-355

4. Taylor WI, Schelhart D. *Am J Clin Path*. 1967; **48:** 356-362

5. Taylor WI, Schelhart D. *Appl Microbiol*. 1971; **21:** 32-37

6. Rollender N, Backford O, Belsky RD, Kostroff B. *Am J Clin Path*. 1969; **51:** 284-286

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