

MAST® Culture Media and Supplements

Technical Information Sheet

Product Code DM 252



Yersinia Agar Base

For the selective isolation and culture of *Yersinia enterocolitica*

1. Description

It is only fairly recently that the organism *Y. enterocolitica* has been recognised as a cause of diarrhoeal disease of man and indicated in cases of polyarthrititis, mesenteric adenitis and septicaemia. This delayed recognition is mainly attributed to the lack of appropriate isolation media and selective agents with consequent unawareness of the presence of *Y. enterocolitica* in clinical specimens and foods. Most routinely used enteric media are inadequate for primary isolation because of the slower growth rate and non-specific appearance on these media of colonies of *Y. enterocolitica*. MAST Yersinia Agar Base (DM252) is designed for use with MAST Yersinia Selectatab (MS19) to prepare the selective medium recommended by Schiemann¹ for the isolation and enumeration of *Y. enterocolitica* from food and clinical specimens. MAST Yersinia Agar

Base (DM252) has several distinct advantages over other enteric media that are commonly used for the isolation of *Y. enterocolitica*.

Head et al² reported this formulation to be highly selective against the normal flora found in clinical and environmental specimens and that the colour reaction resulting from mannitol fermentation gave a characteristic appearance to colonies of *Y. enterocolitica*, enabling them to be easily differentiated from other Gram-negative bacteria growing on this media.

Organisms such as *Citrobacter freundii*, *Serratia liquefaciens* and *Enterobacter agglomerans* all have similar colonial morphology to, and may be isolated with, *Y. enterocolitica* but they can be easily differentiated by biochemical tests.

2. Technical Formula*

Formula	grams per litre
Selected peptone mixture	20.0
Yeast extract	2.0
Mannitol	20.0
Sodium pyruvate	2.0
Sodium chloride	1.0
Magnesium sulphate	0.0056
Neutral red	0.03
Sodium desoxycholate	0.5
Crystal violet	0.001
Agar	12.0

pH approx.7.4

4. In Use

MAST Yersinia Agar Base (DM252) and MAST Yersinia Selectatab (MS19) have been specifically formulated to overcome these problems and give the optimum growth and recovery of *Y. enterocolitica*.

Specimens may be directly cultured onto plates of MAST Yersinia Agar Base (DM252) containing MAST Yersinia Selectatab (MS19) and incubated at 32°C for 24hrs.

A typical colony of *Y. enterocolitica* will produce a dark red "bullseye" surrounded by a transparent border. Colony size and the ratio of the border to centre diameter will vary considerably amongst serotypes.

3. Directions

1. Suspend 57.5g of powder in 1 litre or the contents of the sachet in the stated volume of distilled or deionised water and boil gently until completely dissolved.
2. Autoclave at 121°C (15p.s.i.) for 15 minutes.
3. Mix well before pouring.
4. The medium can be made selective by the use of MAST Yersinia Selectatab (MS19).

5. References

1. Schiemann DA. *Can J Microbiol* 1979; **25**: 1298-1304.
2. Head CB, Whitty DA, Ratnam S. *J Clin Microbiol*. 1982; **16**: No. 4 615-621.



Mast Group Ltd.
Mast House, Derby Road, Bootle
Liverpool, Merseyside, L20 1EA
United Kingdom
Tel: + 44 (0) 151 472 1444
Fax: + 44 (0) 151 944 1332
email: sales@mastgrp.com
Web: www.mastgrp.com

Mast Diagnostica GmbH
Feldstrasse 20
DE-23858 Reinfeld
Germany
Tel: + 49 (0) 4533 2007 0
Fax: + 49 (0) 4533 2007 68
email: mast@mast-diagnostica.de
Web: www.mastgrp.com

Mast Diagnostic
12 rue Jean-Jacques Mention
CS91106, 80011 Amiens, CEDEX 1
France
Tél: + 33 (0) 3 22 80 80 67
Fax: + 33 (0) 3 22 80 99 22
email: info@mast-diagnostic.fr
Web: www.mastgrp.com



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