



# PRODUCT SPECIFICATION SHEET

## Yersinia Isolation Agar (DM682)

### Intended Use

Yersinia Isolation Agar (DM682) is recommended for selective isolation of Yersinia species from foods.

### Product Summary and Explanation

*Yersinia* is a gram-negative bacillus which is generally nitrate reductase-positive, fermentative, oxidase-negative and facultative with respect to oxygen requirement. *Yersinia* is typically urease-positive and motile at 25°C but not at 35°C. It is relatively sensitive to acidic conditions; therefore acid foods and fermented products should be analyzed promptly. An array of enrichment methods have been illustrated for recovery of *Yersinia enterocolitica* from foods. Highly selective enteric plating media, such as SS Agar (DM236) have been used for isolation of *Yersinia*. Yersinia Isolation Agar is developed for selective isolation of Yersinia species and preliminary differentiation of *Yersinia enterocolitica* from human and animal intestinal contents<sup>(1)</sup> and is recommended by ISO Committee for identification of *Yersinia* species from foods.<sup>(2)</sup>

### Principles of the Procedure

Yersinia Isolation Agar contains peptic digest of animal tissue, meat extract, yeast extract which provides nitrogen, carbon, vitamin B complex, trace elements and other essential nutrients required for the growth of microorganisms. Neutral red acts as the pH indicator. Lactose is the fermentable carbohydrate and energy source. High amount of sodium deoxycholate and ox bile inhibit *Enterobacteriaceae* but not *Y. enterocolitica*. Brilliant green and sodium citrate suppresses growth of accompanying gram-positive bacteria.

### Formula / Liter

Ingredients	Gms / Liter
Peptic digest of animal tissue	5.00
Meat extract	5.00
Yeast extract	5.00
Lactose	10.00
Sodium deoxycholate	10.00
Sodium citrate	10.00
Ox bile	8.50
Sodium thiosulphate	8.50
Ferric citrate	1.00
Calcium chloride	1.00
Neutral red	0.025
Brilliant green	0.0003
Agar	15.00
Final pH: 7.4 ± 0.2 at 25°C	
Formula may be adjusted and/or supplemented as required to meet performance specifications	

### Precautions

1. For Laboratory Use only.
2. IRRITANT. Irritating to eyes, respiratory system, and skin.





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## Directions

1. Suspend 79.02 grams of the medium in one liter of distilled water.
2. Heat to boiling, to dissolve the medium completely.
3. DO NOT AUTOCLAVE OR OVERHEAT.
4. Mix well and pour into sterile petri plates.

## Quality Control Specifications

Dehydrated Appearance	Light yellow to pink homogeneous free flowing powder
Prepared Medium	Orange red coloured clear to slightly opalescent gel forms in Petri plates
Reaction of 7.9% Solution	pH : 7.4 ± 0.2 at 25°C
Gel Strength	Firm, comparable with 1.5% Agar gel

**Expected Cultural Response:** Cultural characteristics after an incubation at 25-30°C for 24-48 hours.

Sr. No.	Organisms	Results to be achieved		
		Inoculum (CFU)	Growth	Recovery
1.	<i>Escherichia coli</i> ATCC 25922	50 - 100	none-poor	<=10%
2.	<i>Proteus mirabilis</i> ATCC 25933	50 - 100	fair-good	30-40%
3.	<i>Salmonella Typhimurium</i> ATCC 14028	50 - 100	fair-good	30-40%
4.	<i>Shigella flexneri</i> ATCC 12022	50 - 100	none-poor	<=10%
5.	<i>Yersinia enterocolitica</i> ATCC 27729	50 - 100	good-luxuriant	>=50%

The organisms listed are the minimum that should be used for quality control testing.

## Test Procedure

1. For isolation, streak the primary or secondary enrichment broths after incubation on one or more selective agar plates. After appropriate incubation period, examine the plates for colonies resembling *Yersinia*.
2. Refer to appropriate references for standard test procedures.

## Results

1. Within 24 hours of incubation at 29-30°C, *Y. enterocolitica* and some species of *Enterobacteriaceae* exhibit scanty growth, however, after 48 hours, *Y. enterocolitica* colonies are well established and other *Yersinia* species start growing.
2. Refer appropriate references and procedures for interpretation of results.

## Storage

Store the sealed bottle containing the dehydrated medium at 10- 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light.

## Expiration

Refer to the expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if the appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

## Limitations of the Procedure

1. For identification, organisms must be in pure culture. Morphological, biochemical and/or serological tests should be performed for final identification.
2. Consult appropriate texts for detailed information and recommended procedures.





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## Packaging

Product Name : Yersinia Isolation Agar

Product Code : DM682

Available Pack sizes : 500gm

## References

1. Wauters G., 1973, Med. Malad. Infect. 3:437.
2. International Organization for Standardization (ISO), 1994 Draft ISO/DIS 10273.

## Further Information

For further information please contact your local MICROMASTER Representative.



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DM682PSS, QAD/FR/024,Rev.00/01.01.2018

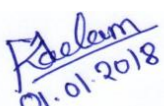
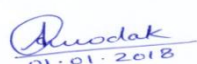

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