



PRODUCT SPECIFICATION SHEET

Pre-Enrichment Broth Base (DM545)

Intended Use

Pre-Enrichment Broth Base (DM545) is recommended for isolation and enrichment of *Yersinia enterocolitica* from food.

Product Summary and Explanation

Yersinia enterocolitica, is a gram-negative, small rod-shaped bacterium, belonging to the family *Enterobacteriaceae* and is often isolated from clinical specimens such as wounds, faeces, sputum and mesenteric lymph nodes. It is primarily a zoonotic and does not form normal human flora. *Y. enterocolitica* is widespread in nature, occurring in reservoirs ranging from the intestinal tracts of numerous mammals, avian species, cold-blooded species, and even from terrestrial and aquatic niches. Human pathogenic strains are usually confined to the intestinal tract and lead to gastroenteritis. Pre-Enrichment Broth is used for the isolation and enrichment of *Y. enterocolitica* from foods and is formulated by APHA.^(1,2)

Principles of the Procedure

Pre-Enrichment Broth Base contains yeast extract and special peptone which provides essential nutrients like B-complex vitamins, nitrogen compounds and trace ingredients. Sodium chloride helps to maintain the osmotic balance of the medium. Disodium phosphate protects the medium against any pH imbalance. Magnesium sulphate, calcium chloride and potassium chloride provide the ions necessary for the growth of the organisms.

Formula / Liter

Ingredients	Gms / Liter
Peptone, special	10.00
Yeast extract	20.00
Disodium phosphate	7.10
Sodium chloride	1.00
Potassium chloride	1.00
Final pH : 8.3 ± 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.

Directions

1. Suspend 39.1 grams of the medium in 980 ml of distilled water.
2. Heat if necessary to dissolve the medium completely.
3. Autoclave at 121°C, 15 psi pressure, for 15 minutes / validated cycle.
4. Cool to 45°C and aseptically add 10 ml each of filter sterilized magnesium sulphate and calcium chloride (0.1%) solution.
5. Mix well and dispense into sterile tubes.

Quality Control Specifications

Dehydrated Appearance	Cream to yellow homogeneous free flowing powder
Prepared Medium	Yellow coloured clear solution with slight precipitate
Reaction of 3.91% Solution	pH : 8.3 ± 0.2 at 25°C
Gel Strength	Not Applicable





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Expected Cultural Response: Cultural characteristics observed with added 10ml each of filter sterilized magnesium sulphate and calcium chloride (0.1%) solution after an incubation at 10°C for 3 days

Sr. No.	Organisms	Results to be achieved	
		Inoculum (CFU)	Growth
1.	<i>Yersinia enterocolitica</i> ATCC 27729	50 -100	good-luxuriant

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

Test Procedure

1. Weigh 25 gram of food in 225 ml of Pre-Enrichment Broth and prepare a 1:10 homogenate of food sample obtained by blending or using a stomacher.
2. Incubate at 10°C for 3 days. Inoculate this pre-enrichment culture in selective enrichment broth and incubate at 25°C. Streak on a selective agar as MacConkey Agar (DM143) or SS Agar (DM236) after 3 and 5 days.
3. Refer to appropriate references for standard test procedures.

Results

Refer to appropriate references and test procedures for interpretation of results.

Storage

Store the sealed bottle containing the dehydrated medium at 2 - 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.

Packaging

Product Name : Pre-Enrichment Broth Base

Product Code : DM545

Available Pack sizes : 500gm

References

1. Schiemann D. A., 1979, *Can. J. Microbiol.*, 25: 1298.
2. Vanderzant C. and Splittstoesser D. F., (Eds.), 1992, *Compendium of Methods for the Microbiological Examination of Foods*, 3rd Ed., APHA, Washington, D.C.

Further Information

For further information please contact your local MICROMASTER Representative.





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