Technical Information

Yersinia Isolation Agar

Product Code: DM 1564

Application: Yersinia Isolation Agar is recommended for the selective isolation of *Yersinia* species from foods.

Composition**

Ingredients	Gms / Litre
Peptic digest of animal tissue	5.000
Meat extract	5.000
Yeast extract	5.000
Lactose	10.000
Sodium deoxycholate	10.000
Sodium citrate	10.000
Ox bile	8.500
Sodium thiosulphate	8.500
Ferric citrate	1.000
Calcium chloride	1.000
Neutral red	0.025
Brilliant green	0.0003
Agar	15.000
Final pH (at 25°C)	7.4±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Yersinia is a gram-negative bacillus that is usually nitrate reductase-positive, fermentative, an aerobe oxidase-negative and facultative anaerobe with respect to oxygen requirement. *Yersinia* is usually urease-positive and motile at 25°C but fail to do so when incubated at 35°C. It is relatively sensitive to acidic conditions; therefore acid foods and fermented products should be analyzed promptly. Different enrichment methods for recovery of *Yersinia enterocolitica* from foods have been described Highly selective enteric plating media, such as SS Agar (DM1108) have been used for isolation of *Yersinia.* Yersinia Isolation Agar has been developed for selective isolation of *Yersinia* species and preliminary differentiation of *Y. enterocolitica* from human and animal intestinal contents [1]. The medium is recommended by the ISO Committee for identification of *Yersinia* species from foods [2].

Peptic digest of animal tissue, meat extract, yeast extract provide nitrogenous and carbonaceous compounds, vitamin B complex, trace elements and other essential growth nutrients. Neutral red acts as the pH indicator. Lactose is the fermentable carbohydrate. High amount of sodium deoxycholate and oxbile inhibit *Enterobacteriaceae* but not *Y. enterocolitica* . Brilliant green and sodium citrate suppresses growth of accompanying gram-positive bacteria. 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.

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 *Yesinia.*

Methodology

Suspend 79.02 grams of powder media in 1000 ml distilled water. Shake well & heat to dissolve the medium completely. DO NOT AUTOCLAVE OR OVERHEAT. Mix well and pour into sterile Petri plates.

Quality Control

Physical Appearance
Light yellow to pink homogeneous free flowing powder
Gelling
Firm, comparable with 1.5% Agar gel.
Colour and Clarity of prepared medium
Orange red coloured clear to slightly opalescent gel forms in Petri plates.
Reaction
Reaction of 7.9% w/v aqueous solution at 25°C. pH : 7.4±0.2
pH Range:-
7.20-7.60
Cultural Response/Characteristics
DM 1564: Cultural characteristics observed after an incubation at 25-30°C for 24-48 hours.

Organism	Inoculum (CFU)	Growth	Recovery
Escherichia coli ATCC 25922	50-100	none-poor	<=10%
Proteus mirabilis ATCC 25933	50-100	fair-good	30-40%
Salmonella Typhimurium ATCC 14028	50-100	fair-good	30-40%
Shigella flexneri ATCC 12022	50-100	none-poor	<=10%
Yersinia enterocolitica ATCC 27729	50-100	good-luxuriant	>=50%

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.
Prepared Media: 2-8^0 in sealable plastic bags for 2-5 days.

Further Reading

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

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
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