

CIN (Cefsulodin Irgasan Novobiocin) Agar



Medium used for the isolation and cultivation of *Yersinia enterocolitica* from clinical specimens and foods.

*Equally use with Yersinia Selective Agar(MB-Y1111), MFDS (MB-Y1111K), QIA (MB-Y1111Q) and NIER (MB-Y1111N).

• CONTENTS (Liter)

Peptone	20.0 g
Yeast Extract	2.0 g
Mannitol	20.0 g
Sodium Pyruvate	2.0 g
Sodium Chloride	1.0 g
Magnesium Sulfate Heptahydrate	0.01 g
Sodium Deoxycholate	0.5 g
Crystal Violet	0.001 g
Neutral Red	0.03 g
Agar	12.0 g

Final pH = 7.4 ± 0.2 at 25°C.

• PROCEDURE

Suspend 57.54 G of powder in 1 L of distilled or deionized water. Heat to boiling until completely dissolved. Sterilize by autoclave at 121°C for 15 minutes. Cool to 45-50°C in water bath. Aseptically add 2 vials of CIN Agar supplement (MB-C0728). Mix well. Dispense in petri dishes.

CIN Agar supplement

1 vial content (each vial is sufficient for 500 mL of medium)

Cefsulodin	0.0075 g
Irgasan	0.002 g
Novobiocin	0.00125 g

• INTERPRETATION

CIN (Cefsulodin Irgasan Novobiocin) Agar is a medium used for the isolation and cultivation of *Yersinia enterocolitica* from clinical and food specimens. Peptone and yeast extract provide the nitrogen and vitamin sources. Mannitol is a carbohydrate source. During mannitol fermentation, fermenting bacteria acidify the medium. Because of this, a local pH drops around the colony and neutral red acts as a pH indicator. In result, mannitol fermenting organisms grow as colorless colony with dark pink center. Sodium pyruvate and magnesium sulfate heptahydrate are used for the enumeration of *Yersinia enterocolitica*. Sodium deoxycholate and crystal violet inhibit the growth of gram-positive bacteria. Agar is the solidifying agent. Irgasan, cefsulodin and novobiocin are selective agents to inhibit the growth of gram-negative bacteria and entero bacteria.

• TECHNIC

Inoculate the plates with spreading the specimen on surface of the medium using a sterile loop. Incubate at 22 - 35°C for 24 - 48 hours. Refer appropriate references for recommended test procedure.

• QUALITY CONTROL FOR USE

Dehydrated medium

Appearance: free-flowing, homogeneous

Color: light pinkish-beige

Prepared medium

Appearance: clear to slightly opalescent

Color: purplish-red

Incubation conditions: 22 - 35°C / 24 - 48 hours

Microorganism	ATCC	Inoculum CFU	Growth	Characteristics
<i>Yersinia enterocolitica</i>	23715	50 - 100	good	colorless colony with dark pink center
<i>Escherichia coli</i>	25922	≥10 ³	inhibited	-
<i>Pseudomonas aeruginosa</i>	27853	≥10 ³	inhibited	-
<i>Enterococcus faecalis</i>	29212	≥10 ³	inhibited	-

• STORE

The powder is very hygroscopic. Store the powder at room temperature, in a dry environment, in its original container tightly closed and use it before the expiry date on the label or until signs of deterioration or contamination are evident. Store prepared medium at 2-8°C.

• REFERENCES

1. Murray, Baron, Pfaller, Tenover, Tenover, Tenover, Yolken (ed.)1995. Manual of clinical microbiology, 6th American Society for Microbiology, Washington, D.C.
2. NCCLS document M22-A2, 1996. Approved Standard.
3. Schiemann, D.A. 1979. Synthesis of a selective agar medium for *Yersinia enterocolitica*. Can. J. Microbiol. 25:1298-1304.
4. Refer to the MFDS.
5. Refer to the QIA.
6. Refer to the NIER.

• PACKAGE

Cat. No : MB-C1111 CIN (Cefsulodin Irgasan Novobiocin) Agar	500 G
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