Condalab

**Reference:** 0933 **Technical Data Sheet**

**Product:** **YERSINIA CIN AGAR**

## Specification

Solid differential medium used for the selective isolation of *Yersinia spp*. from highly polluted samples, according to ISO 10273 Standard.

## Presentation

| | Packaging Details | Shelf Life | Storage |
|---|---|---|---|
| 20 Prepared Plates<br>90 mm<br>with: 21 ± 2 ml | 1 box with 2 packs of 10 plates/pack. Single cellophane. | 3 months | 2-14°C |

## Composition

Composition (g/l):

| | |
|---|---|
| Peptone | 20.0 |
| Yeast,extract | 2.00 |
| Mannitol | 20.00 |
| Sodium piruvate | 2.00 |
| Sodium chloride | 1.00 |
| Sodium deoxycholate | 0.50 |
| Magnesium sulphate | 0.01 |
| Neutral red | 0.03 |
| Crystal violet | 1.00 mg |
| Cefsulodin | 15.0 mg |
| Irgasan® | 4.00 mg |
| Novobiocin | 2.50 mg |
| Agar | 15.0 |

## Description /Technique

Cefsuloidin-IrgasanTM-Novobiocin Agar, also know as CIN Agar, *Yersinia* Selective Agar or *Yersinia* CIN Selective Agar was originally formulated by Schiemann (1979) for detection of *Yersinia enterocolitica*. He subsequently (1982) revised it by substituting sodium deoxycholate for bile salts and reducing the novobiocin content. It relies on the use of the selective inhibitory components sodium deoxycholate, crystal violet, cefsuloidin, Irgasan® and novobiocin. The indicative principle is fermentation of mannitol with localised pH reduction which forms a red colony due to the neutral red and a zone of precipitation due to the deoxycholate.
The characteristic appearance of *Yersinia spp*. colonies after an incubation of 18-24 hours at 30°C or 48 hours at 22°C on CIN Agar in air, are round, pink, about 2 mm in diameter with a dark pink centre and surrounded with a precipitation zone. Confirmatory tests are required. Typical colonies of *Yersinia enterocolítica* will develop as a red bull's-eye surrounded by a transparent border, but will vary considerably among serotypes in colony size, smoothness and the ratio of the border to centre diameter. Most other organisms that are capable of growing on this medium produce larger colonies (> 2 mm in diameter) with diffuse pinkish centres and opaque outer zones. Some strains of *Serratia*, *Citrobacter* and *Enterobacter* in CIN Agar may give a colonial morphology resembling *Yersinia enterocolitica*. These organisms can be differentiated by biochemical tests.

At the present no single isolation procedure is available for the recovery of all pathogenic strains of *Yersinia enterocolitica*. Selection of the proper isolation procedure will depend on the bio/serogroups of *Yersinia spp*. sought and on the type of sample to be examined. The ISO method for the detection of presumptive pathogenic *Yersinia enterocolitica* includes parallel use of the following two isolation procedures:
1)-Enrichment in Peptone, Sorbitol and Bile Salts (PSB) Broth for 2-3 days at 22-25°C with agitation or 5 days without agitation; plating on CIN Agar directly and after alkaline treatment and incubation for 24 hours at 30°C.
2)-Enrichment in ITC (Irgasan®-Ticarcillin-Chlorate) Broth for 2 days at 24°C; plating on SSDC (*Salmonella- Shigella*-Deoxycholate-Calcium Chloride) Agar and incubation for 2 days at 30°C.

## Quality control

**Physical/Chemical control**

Color : Purple reddish pH: 7.4 ± 0.2 at 25°C

**Microbiological control**

Spiral Spreading: Practical range 100±20 CFU; Min. 50 CFU (Productivity) / $10^4$-$10^6$ CFU (Selectivity).
Aerobiosis. Incubation at 30 ± 2°C Reading at 48 h.

| Microorganism | Growth |
|---|---|
| *Yersinia enterocolitica* ATCC® *9610, WDCM 00038* | Good |
| *Escherichia coli* ATCC® *25922, WDCM 00013* | Partial Inhibition |

**Sterility Control**

Incubation 48 hours at 30-35°C and 48 hours at 20-25°C: NO GROWTH
Check at 7 days after incubation in same conditions

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