BIO-RAD

YERSINIA CIN 63518

SELECTIVE ENRICHMENT MEDIUM FOR THE ISOLATION OF YERSINIA ENTEROCOLITICA

IVD

1- INTENDED USE

Yersinia CIN agar (Cefsulodin-Irgasan-Novobiocin) enables the selective isolation of *Yersinia enterocolitica.*

2- PRINCIPLE

The selectivity of this medium is based on the presence of crystal violet, Irgasan and bile salts (inhibition of Gram (+) bacteria), and cefsulodin and novobiocin (inhibition of Gram (-) bacteria). The differentiation of *Yersinia enterocolitica* is based on its ability to ferment mannitol. This fermentation induces acidification of the medium, causing a red colour in the centre of the colonies in the presence of neutral red (pH indicator). This acidification can also induce the formation of a zone of precipitation of bile salts around the colony.

3- HOW SUPPLIED

- Ready to use medium:
  - Yersinia CIN: 20 Petri dishes (90 mm) (**CIN**) code 63518

4- THEORETICAL COMPOSITION (g/l of distilled water)

Yersinia CIN

Yersinia CIN agar is prepared according to the formula described by Schiemann et al. (1).

Meat peptone	17	**CIN mixture**:	
Casein peptone	3	Cefsulodin	15 µg
Yeast extract	2	Irgasan	4 µg
Mannitol	20	Novobiocin	2.5 µg
Sodium pyruvate	2		
Sodium chloride	1		
Magnesium sulphate	0.01		
Mixture of bile salts	1		
Neutral red	0.03		
Crystal violet	0.001		
Agar	13.5		

5- STORAGE

- Ready to use medium: at +2-8°C.

The expiry date and batch number are indicated on the packaging.

6- INSTRUCTIONS

Material:

- Material provided: Yersinia CIN medium.

Inoculation:

Inoculate by streaking directly from the specimen to be examined (stool suspension) or from an enrichment broth.
Refer to current recommendations for storage of biological specimens (2).

Incubation:

Incubate for 24 hours at 25-29°C (optimal temperature: 29°C).

Reading:

After 24 hours: smooth colonies, with a **red centre** and translucent edge (rosette appearance), small diameter (1-1.5 mm).
After 48 hours: the halo of bile salt precipitation can make the outline of the colony opaque.
The size and the appearance of the colonies may be similar to those of *Enterobacteriaceae*.
Aeromonas and *Pseudomonas* sometimes form larger, pink colonies.

7- PERFORMANCE/QUALITY CONTROL OF THE TEST

- Appearance of the ready to use medium: **orange to pink**, transparent agar.
- The growth performances of Yersinia CIN medium are verified with the following strains:

STRAINS	CULTURE RESULT AFTER 24 hours at 25°C to 29°C
Escherichia coli ATCC 25922	No growth
Staphylococcus aureus ATCC 25923	No growth
Salmonella typhimurium ATCC 14028	No growth
Yersinia enterocolitica ATCC 23715	Colonies with a **red centre** and a translucent edge

8- QUALITY CONTROL OF THE MANUFACTURER

All manufactured reagents are prepared according to our Quality System, starting from reception of raw material to the final commercialization of the product. Each lot is submitted to quality control assessments and is only released to the market, after conforming to pre-defined acceptance criteria. The records relating to production and control of each single lot are kept within Bio-Rad.

9- LIMITS OF USE

- The selectivity of this medium is only partial, as other Gram (-) bacilli are able to grow. Some Enterobacteriaceae that utilise mannitol, such as *Enterobacter*, *Citrobacter* and *Serratia*, form pink colonies that may be confused with *Yersinia*. Complete species identification is therefore essential.
- The presence of urease, the absence of tryptophan deaminase, the motility at 28°C and the results obtained on Kligler Hajna medium are useful to guide identification. Serotyping is performed after the species identification has been established.
- A lightly contaminated specimen may show poor growth on this medium.

10- REFERENCES

1. D.A Schiemann *et al*, 1979. Synthesis of a selective agar medium for Yersinia enterocolitica. Can. J. Microbiol. **35** : p.1298 1304.
2. Basic Laboratory Procedures in Clinical Bacteriology. World Health Organization. Geneva. 1991. 1st edition.

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