

Salmonella Shigella Agar with Sodium Deoxycholate and Calcium Chloride (SSDC)

Cat. 1360

 Selective medium for the isolation and orientative differentiation of *Yersinia enterocolitica*

Practical information

| Applications | Categories |
|--------------|--------------------------------|
| Detection | <i>Yersinia enterocolitica</i> |

Industry: Clinical / Food

Principles and uses

Salmonella Shigella Agar with Sodium Deoxycholate and Calcium Chloride (SSDC) is used for the isolation and indicative differentiation of *Yersinia enterocolitica*.

Enzymatic digest of casein and meat peptone provide nitrogen, vitamins, minerals and amino acids essential for growth. Yeast extract is source of vitamins, particularly the B-group. Lactose is the fermentable carbohydrate providing carbon and energy. Sodium citrate, anhydrous sodium thiosulfate and sodium deoxycholate, Bile salts and brilliant green are selective agents. Calcium chloride provides trace elements necessary for bacterial growth. Iron (III) citrate is an H₂S indicator. Neutral red is a pH indicator. Bacteriological agar is the solidifying agent.

Formula in g/L

| | | | |
|------------------------------------|-------|-----------------|--------|
| Bacteriological agar | 15 | Beef extract | 5 |
| Bile salts | 8,5 | Brilliant green | 0,0003 |
| Calcium chloride | 1 | Lactose | 10 |
| Neutral red | 0,025 | Sodium citrate | 10 |
| Sodium deoxycholate | 10 | Yeast extract | 5 |
| Enzymatic digest of animal tissues | 5 | Ferric citrate | 1 |
| Sodium thiosulfate pentahydrated | 8,5 | | |

Preparation

Suspend 76 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution AVOID OVERHEATING. DO NOT AUTOCLAVE. Dispense into appropriate containers.

Instructions for use

- After the enrichment in Irgasan Ticarcillin Potassium Chlorate Broth (ITC) Base (Cat. 1361) at 25°C during 48h, inoculate on SSDC plates to obtain well separated colonies.
- Incubate at 30°C during 24-48 hours.
- Characteristic colonies of *Yersinia enterocolitica* are small (u 1 mm) and grey with an indistinct rim, non-iridescent and very finely granular when examined with obliquely transmitted light.
- Confirm 5 of the characteristic or suspicious colonies.
- If the development of colonies is slow, if coloration is weak, or if there are no characteristic colonies, continue incubation of the plates for up to 48 h, then re-examine them.

Quality control

| Solubility | Appearance | Color of the dehydrated medium | Color of the prepared medium | Final pH (25°C) |
|------------|-------------|--------------------------------|------------------------------|-----------------|
| w/o rests | Fine powder | Light yellow to pink | Red orange | 7,4 ± 0,2 |

Microbiological test

According to ISO 11133:

Incubation conditions: (30±1 °C / 21±3 h).

Inoculation conditions: Productivity qualitative (<100 CFU) / Selectivity (10⁴-10⁶).

| Microorganisms | Specification | Characteristic reaction |
|---|-----------------------------------|--|
| <i>Yersinia enterocolitica</i> ATCC 23715 | Good growth (2) | Small and grey colonies with an indistinct rim |
| <i>Escherichia coli</i> ATCC 25922 | Total or partial inhibition (0-1) | |
| <i>Staphylococcus aureus</i> ATCC 25923 | Total inhibition (0) | |
| <i>Yersinia enterocolitica</i> ATCC 9610 | Good growth (2) | Small and grey colonies with an indistinct rim |

Storage

Temp. Min.:2 °C

Temp. Max.:25 °C

Bibliography

ISO 10273 Microbiology of Food and animal feeding stuffs- Horizontal method for the detection of presumptive pathogenic *Yersinia enterocolitica*.