

Specification

Solid medium for the isolation of enteropathogenic species, especially *Salmonella* and *Shigella* according to Pharmacopoeial Harmonised Method and ISO Standard.

Presentation

20 Prepared Plates
90 mm
with: 21 ± 2 ml

Packaging Details

1 box with 2 packs of 10 plates/pack. Single BOPP film. With desiccant.
LATERAL LABELLING

Shelf Life

4 months

Storage

15-25 °C

Composition

Composition (g/l):

Xylose.....	3.50
L-Lysine HCl.....	5.00
Lactose.....	7.50
Sucrose.....	7.50
Sodium chloride.....	5.00
Yeast extract.....	3.00
Phenol red.....	0.08
Sodium deoxycholate.....	2.50
Sodium thiosulfate.....	6.80
Ammonium ferric citrate.....	0.80
Agar.....	13.5

Description /Technique

Xylose Lysine Deoxycholate Agar is a selective differential medium, suitable for the detection of pathogenic enterobacteria, especially *Shigella*. Gram positive microbiota are inhibited by the low amount of deoxycholate, whilst *Shigella* grows.

Xylose, lactose or sucrose fermentation produces the acidification of the medium, and this is seen by the indicator turning yellow, surrounding the colonies. This colour disappears after 24 hours, so observations must be carried out between 18 and 24 hours.

Hydrogen sulfide production from thiosulfate is easily detected because colonies become darker, due to the ferric sulfide precipitate.

Lysine decarboxylation to cadaverine may also be observed in the medium, since it produces alkalization and consequently the indicator turns to red.

All these reactions allow a good differentiation of *Shigella*. *Edwardsiella* and *Proteus inconstans* are the only enterobacteria other than *Shigella* which do not ferment xylose and therefore show negative fermentation reaction. *Salmonella* ferment xylose, but it is consumed quickly and alkalization of the medium due to lysine decarboxylation, may mask the reaction. *Salmonella* colonies become darker due to ferrous sulfide precipitates, which is also a common property with *Edwardsiella*.

Other types of enterobacteria do not suffer this phenomenon, since acid accumulation due to lactose and sucrose fermentation is so high that it avoids pH reversion by decarboxylation and even ferrous sulfide precipitate in the first 24 hours.

In the quality control, typical colonial appearances on XLD medium after 18-48 hours of incubation at 30-35°C are described.

Quality control

Physical/Chemical control

Color : Red

pH: 7.4 ± 0.2 at 25°C

Microbiological control

According to USP & European Pharmacopoeia

Inoculate with 10-100 CFU according to harmonized Pharmacopoeia or with 100-1000 CFU for selectivity.

Analytical methodology according to ISO 11133:2014/A1:2018; A2:2020.

Aerobiosis. Incubation at 30-35°C. Reading at 18-24/ 48 h

Microorganism

Salmonella typhimurium ATCC® 14028, WDCM 00031*Salmonella abony* NCTC® 6017*Staphylococcus aureus* ATCC® 6538, WDCM 00032

Growth

Good- Cult. medium & red colonies, black center (SH₂ +).Good- Cult. medium & red colonies, black center (SH₂ +).

Inhibited

Sterility control

Incubation 48 h at 30-35 °C and 48 h at 20-25 °C: NO GROWTH.

Check at 7 days after incubation in same conditions.

Bibliography

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