



Reference: 064-PA0034 Scharlau Microbiology - Technical Data Sheet

Product: **XLD (Xylose Lysine Desoxycholate) Agar. Eur. Pharm**

Specification

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

Presentation

20 Prepared Plates
90 mm
with: 21 ± 1 ml

Packaging Details

1 box with 2 packs of 10 plates/pack. Single cellophane.

Shelf Life

2,5 months

Storage

2-14°C

Composition

Composition (g/l):

Xylose.....	3.50
L-Lysine.....	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.....	15.0

Description /Technique

Description

Xylose Lysine Deoxycholate Agar is a selective differential medium, suitable for the detection of pathogenic enterobacteria in food, especially *Shigella*. A modification in the original formulation of Taylor allows the medium to perform to the specifications of the ISO 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.

Technique

For plate inoculation follow the laboratories standard methods or the applicable norms (spiral plating method, econometric methods, streak plating, dilution banks, spread plating with drigralsky rod etc ...)

Incubate aerobically at 37±1C° for 24-48 h.



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Quality control

Physical/Chemical control

Color : Red

pH: 7.4 ± 0.2 at 25°C

Microbiological control

Growth Promotion Test according to harmonized pharmacopoeial monographs and test methods & ISO 11133:2014

Spiral Spreading: Practical range 100±20 CFU; Min. 50 CFU (Productivity) / 10⁴-10⁶ CFU (Selectivity).

Aerobiosis. Incubation at 37 ± 1°C, reading after 24/48h ± 2h

Microorganism

Growth

Enterococcus faecalis ATCC® 29212

Inhibited

Escherichia coli ATCC® 8739

Partially Inhibited (≤ 30%)

Salmonella typhimurium ATCC® 14028

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

Salmonella enterica ATCC® 13076

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

Shigella flexneri ATCC® 12022

Good - Cult. medium & red colonies (SH₂-).

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

Bibliography

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