

84368 Salmonella Agar according to Önöz (ÖNÖZ Agar) NutriSelect® Plus

For the cultivation of Salmonella acc. to Oenöz (1986).

Composition:

Ingredients	Grams/Litre
Yeast extract	3.0
Meat extract	6.0
Meat peptone	6.8
Lactose	11.5
Sucrose	13.0
Bile salt mixture	3.825
Trisodium citrate 5.5 hydrate	9.3
Sodium thiosulfate 5 hydrate	4.25
L-Phenylalanine	5.0
Ferric citrate	0.5
Magnesiumsulfate	0.4
Brilliant green	0.0017
Neutral red	0.022
Methyl blue	0.25
Metachrome yellow	0.47
Disodium hydrogen phosphate 2 hydrate	1.0
Agar	15.0

Final pH 7.1 +/- 0.2 at 25°C

Store dehydrated powder below 30°C in a tightly closed container and the prepared medium below 2-8°C. Protect from moisture and light by keeping container in a low humidity environment. Use before expiry date on the label.

Appearance(color): Light yellow and light beige and light brown, free flowing powder
 Gelling: Firm, comparable with 1.5% Agar gel.
 Color and Clarity: Greenish brown coloured clear to slightly opalescent gel forms in Petri plates

Directions:

Dissolve 80.3 g in 1 litre water, boil to suspend. Do NOT autoclave.

Principle and Interpretation:

Salmonella and Shigella are gram-negative, facultatively anaerobic, non-sporulating rods in the family Enterobacteriaceae. They are widely distributed in animals. Salmonella Agar ÖNÖZ was developed by Önöz (1) for rapid detection of Salmonella and Shigella species from clinical specimens. Meat peptone, yeast extract and meat extract provide nitrogenous compounds, vitamin B complex and other essential the growth of growth nutrients. Lactose & sucrose serves as carbohydrate source. The inclusion of Bile Salts, Sodium Citrate and Brilliant Green serve to inhibit gram-positive, coliform organisms and inhibit swarming Proteus spp., while allowing Salmonella spp. to grow. Sodium



thiosulfate and ferric citrate permit detection of hydrogen sulfide by the production of colonies with black centers. Lactose and sucrose fermenting members of Enterobacteriaceae are partially inhibited, and their colonies can be differentiated by means of the color produced in the presence of the indicators - neutral red and aniline blue. Proteus species deaminate phenylalanine to give phenylpyruvate, which forms a dark brown complex with iron ions. Phenylalanine also neutralizes chloramphenicol, which aids in the detection of Salmonellae from patients under treatment.

Cultural characteristics observed after 18-24 hours at incubation of 35-37°C.

Organisms (ATCC/WDCM)	Inoculum (CFU)	Growth	Recovery	Color of Colony	Colour change of medium
<i>Enterobacter aerogenes</i> (13048/00175)	50-100	++/+++	≥50%	bluish or yellowish	yellow
<i>Escherichia coli</i> (25922/00013)	50-100	++	40-50%	blue with bile precipitation	blue
<i>Klebsiella pneumoniae</i> (13883/00097)	50-100	-/+	20-30%	bluish-purple, may have slight precipitation ring around colony	bluish-green
<i>Proteus mirabilis</i> (25933/-)	50-100	++/+++	≥50%	dark brown to black	dark yellow
<i>Pseudomonas aeruginosa</i> (27853/00025)	50-100	++/+++	≥50%	yellow to brown	yellow
<i>Salmonella Typhi</i> (6539/-)	50-100	++/+++	≥50%	yellow with or without black centres	yellow
<i>Salmonella Typhimurium</i> (14028/00031)	50-100	++/+++	≥50%	yellow with black centres	yellow
<i>Shigella flexneri</i> (12022/00126)	50-100	++/+++	≥50%	yellow to brown	dark brown
<i>Staphylococcus aureus</i> (25923/00034)	≥10 ³	-	0%		

References:

1. ÖNÖZ E., Hoffmann K., 1978, Zbl. Bakt. Hyg., I. Abt. Orig., A240:16.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

