

BPLS Agar, mod.

(Brilliant-green Phenol-red Lactose Sucrose Agar, modified)

Selective agar for the isolation of salmonellae (with the exception of *S. typhosa*) from meat, meat products and other foodstuffs.

The culture medium complies with the recommendations of the ISO (1993) and the DIN Norms 10160 and 10181. Its composition corresponds with that of the modification of the brilliant-green agar acc. to KAUFFMANN (1935), developed by a research group in Utrecht (Netherlands).

Mode of Action

Basically the same as for 1.07237 BPLS Agar. The brilliant green concentration is, however, much lower, growth is therefore not that strongly inhibited.

Typical Composition (g/litre)

Peptone from meat 10.0; meat extract 5.0; yeast extract 3.0; disodium hydrogen phosphate 1.0; sodium dihydrogen phosphate 0.6; lactose 10.0; sucrose 10.0; phenol red 0.09; brilliant green 0.0047; agar-agar 12.0.

Preparation

Suspend 51.5 g/litre, heat gently with frequent agitation and bring to boil to dissolve completely. Afterwards pour plates at about 50°C.

■ Do not autoclave!

pH: 6.9 ± 0.2 at 25 °C.

The plates are clear and red.

Experimental Procedure and Evaluation

Optimal yields of salmonellae are obtained if an enriched culture is first prepared in Tetrathionate Broth Base acc. to MULLER-KAUFFMANN (Merck Cat. No. 1.10863.), which should be incubated for 18-24 hours at 43°C. The material is then streaked onto the surface of BPLS agar modified in such a way that single, isolated colonies are formed.

Incubation: 24 hours at 35 °C, aerobically.

Suspected *Salmonella* colonies should be subjected to further tests.

Appearance of Colonies	Microorganisms
Red, surrounded by a bright red zone	Lactose- and sucrose-negative: <i>Salmonella</i> , <i>Proteus</i> (no swarming), <i>Pseudomonas</i> (small, crenate colonies) and others.
Yellow, surrounded by a yellow zone	Lactose- or sucrose-positive: <i>E. Coli</i> , <i>Enterobacter</i> , possibly <i>Citrobacter</i> , <i>Klebsiella</i> and others.

Literature

DIN Deutsches Institut für Normung e.V.: Untersuchung von Fleisch und Fleischerzeugnissen. Nachweis von Salmonellen. Referenzverfahren. - **DIN 10160**.

DIN Deutsches Institut für Normung e.V.: Mikrobiologische Milchuntersuchung. Nachweis von Salmonellen. Referenzverfahren. - **DIN 10181**.

ISO International Organization for Standardization: Meat and meat products. Detection of Salmonellae. Reference method. - **International Standard ISO 6579** (1993).

EDEL, W., a. KAMPELMACHER, E.H.: Salmonella isolation in nine European laboratories using a standardized technique. - **BULL. Wild. Hith. Org.**, **41**: 297-306 (1969).

KAUFFMANN, F.: Weitere Erfahrungen mit dem kombinierten Anreicherungsverfahren für Salmonellenbacillen. - **Z. Hyg. Infekt. Krhn.**, **117**: 26-32 (1935).

READ, R.B., a. REYES, A.L.: Variation in planting efficiency of Salmonellae in eight lots of Brilliant Green Agar. - **App. Microbiol.**, **16**: 746-748 (1968).

VASSILIADIS, P., TRICHOFOULOS, D., PAPADAKIS, J. KALAPOTHAKI, V., a. SERIE, CH.: Brilliant green deoxycholate agar as an improved selective medium for the isolation of salmonella. - **Ann. soc. belge med. trop.** **59**, 117-120 (1979).

Ordering Information

Product	Merck Cat. No.	Pack size
BPLS Agar, mod. (Brilliant-green Phenol-red Lactose Sucrose Agar, modified)	1.10747.0500	500 g

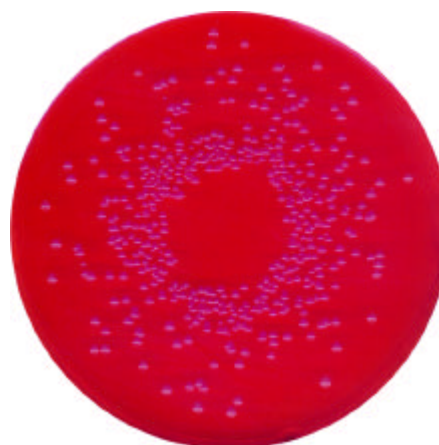
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Quality control (spiral plating method)

Test strains	Inoculum (cfu/ml)	Recovery rate (%)	Colony colour	Culture medium
Salmonella typhimurium ATCC 14028	10^3 - 10^5	≥ 40	red / pink	red
Salmonella choleraesuis ATCC 13312	10^3 - 10^5	≥ 40	red / pink	red
Salmonella enteritidis NCTC 5188	10^3 - 10^5	≥ 40	red / pink	red
Escherichia coli ATCC 25922	10^3 - 10^5	Not limited	yellow	yellow
Proteus vulgaris ATCC 13315	10^3 - 10^5	Not limited	yellow	yellow
Staphylococcus aureus ATCC 25923	$< 10^5$	≤ 0.01		
Enterococcus faecalis ATCC 33186	$< 10^5$	≤ 0.01		
Bacillus subtilis ATCC 6633	$< 10^5$	≤ 0.01		



Salmonella choleraesuis
ATCC 13312



Salmonella typhimurium
ATCC 14028