

Technical Data Sheet

DHL Agar acc. to SAKAZAKI

Ordering number: 1.11435.0500

Deoxycholate hydrogen sulfide lactose agar is used for the detection and isolation of pathogenic Enterobacteriaceae from all types of materials.

This medium represents a modified deoxycholate agar as proposed by SAKAZAKI et al. (1960, 1971).

IVD in vitro diagnosticum - For professional use only

Mode of Action

H₂S production is indicated by a blackening of the colonies due to formation of iron sulfide. Although Proteus is H₂-positive, its colonies are not black. Colonies of Proteus, Morganella, Rettgerella and Providencia are, however, surrounded by dark brown zones, which occur, because these species act on the phenylalanine of the peptone to produce phenylpyruvate, which forms an iron complex with iron(III) ions. The sucrose content of the medium permits differentiation of weakly lactose-positive or lactose-negative, sucrose-positive species from sucrose- and lactose-negative Enterobacteriaceae. The deoxycholate largely suppresses the growth of Gram-positive bacteria and prevents the swarming of Proteus species. This medium provides a rich nutrient base and contains a relatively low concentration of the inhibitor deoxycholate. These properties permit growth of even fastidious strains of Salmonella and Shigella. The colonies formed are considerably larger than those found on other selective culture media. Proteus, Morganella, Rettgerella and Providencia can be differentiated from Salmonella.

Typical Composition

Peptone from casein	10.0 g/l
peptone from meat	10.0 g/l
meat extract	3.0 g/l
lactose	10.0 g/l
sucrose	10.0 g/l
L-cysteinium chloride	0.2 g/l
sodium citrate	1.0 g/l
sodium deoxycholate	1.5 g/l
sodium thiosulfate	2.0 g/l
ammonium iron(III) citrate	1.0 g/l
neutral red	0.03 g/l
agar-agar	15.0 g/l

Preparation

Suspend 63.5 g/litre, pour plates to give thick layers (about 20 ml per plate).
Do not autoclave.

pH: 7.2 ± 0.2 at 25 °C.

The plates are clear and red.

Specimen

e.g. Stool.

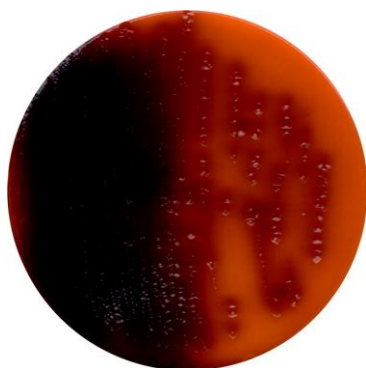
Clinical specimen collection, handling and processing. See general instructions of use.

Experimental Procedure and Evaluation

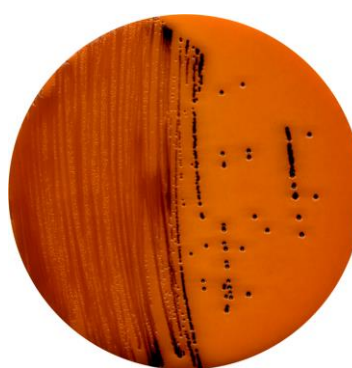
Spread the sample or material from an enrichment culture thinly on the surface of the plates.

Incubation: 24-48 hours at 35 °C aerobically.

Appearance of Colonies	Microorganisms
Red surrounded by a zone of precipitate, medium sized, flat	Escherichia coli
Pink with a red centre, often mucoid	Enterobacter, Klebsiella and others
Colourless, sometimes with a black centre	Citrobacter
Colourless, surrounded by a dark brown zone	Proteus mirabilis, Morganella, Rettgerella, Providencia
Colourless with a black centre	Salmonella (incl. Arizona)
Colourless, large, flat	Shigella



Proteus mirabilis ATCC 14153



Salmonella enteritidis ATCC 13076

Storage

Usable up to the expiry date when stored dry and tightly closed at +15 to +25 °C. Protect from light.

After first opening of the bottle the content can be used up to the expiry date when stored dry and tightly closed at +15 to +25 °C.



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Quality Control

Control Strains	ATCC #	Incubation	Expected Results
<i>Escherichia coli</i>	25922	24 h at 35°C	Growth good / very good; red colonies; Culture Medium precipitate
<i>Klebsiella pneumoniae</i>	10031	24 h at 35°C	Growth good / very good; pink colonies
<i>Salmonella typhimurium</i>	14028	24 h at 35°C	Growth good / very good; colourless; black centre
<i>Salmonella enteritidis</i>	13076	24 h at 35°C	Growth good / very good; colourless; black centre
<i>Proteus mirabilis</i>	14153	24 h at 35°C	Growth good / very good; colourless; black centre ±; Culture Medium brownish zone
<i>Shigella flexneri</i>	12022	24 h at 35°C	Growth fair / very good; colourless
<i>Enterococcus faecalis</i>	11700	24 h at 35°C	Growth none / poor
<i>Staphylococcus aureus</i>	25923	24 h at 35°C	Growth none
<i>Bacillus cereus</i>	11778	24 h at 35°C	Growth none

Please refer to the actual batch related Certificate of Analysis.

Literature

SAKAZAKI, R., NAMIOKA, S., OSADA, A., a. YAMADA, C.A.: A problem on the pathogenic role of Citrobacter of enteric bacteria. - Japan. J. Ex. Med., 30; 13-22 (1960).

SAKAZAKI, R., TAMURA, K., PRESCOTT, L.M., BENZIC, Z., SANYAL, S.C., a. SINHA, R.: Bacteriological examination of diarrheal stools in Calcutta. - Indian J. Med. Res., 59; 1025-1034 (1971).

Ordering Information

Product	Cat. No.	Pack size
DHL Agar acc. to SAKAZAKI	1.11435.0500	500 g

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