

DHL Agar acc. to SAKAZAKI

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



In Vitro Diagnostic Medical Device –

For professional use only



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Merck KGaA, 64271 Darmstadt

*See also General Instruction for Use
„How to use Dehydrated Culture Media“*

*For MSDS, warnings and precautions see our website:
www.merck-chemicals.com*

Principle

Microbiological method.

General Information

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

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 (g/litre)

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

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.

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.

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	<i>Escherichia coli</i>
Pink with a red centre, often mucoid	<i>Enterobacter</i> , <i>Klebsiella</i> and others
Colourless, sometimes with a black centre	<i>Citrobacter</i>
Colourless, surrounded by a dark brown zone	<i>Proteus mirabilis</i> , <i>Morganella</i> , <i>Rettgerella</i> , <i>Providencia</i>
Colourless with a black centre	<i>Salmonella</i> (incl. <i>Arizona</i>)
Colourless, large, flat	<i>Shigella</i>

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).

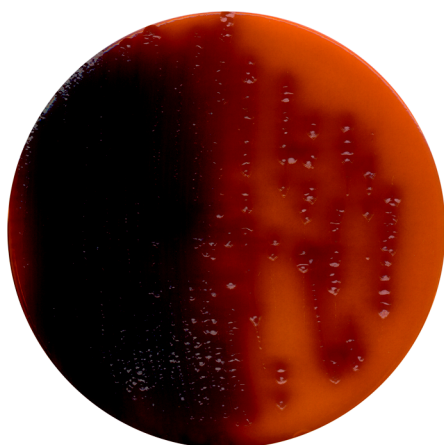
SAKAZAKI, R., TAMURA, K., PRESCOTT, L.M., BENZIC, Z., SANYAL, S.C., a. SINHA, R.: Bacteriological examination of diarrheal stools in Calcutta. – *Indian J. Med. Res.*, 59; 1025-1034 (1971).

Ordering Information

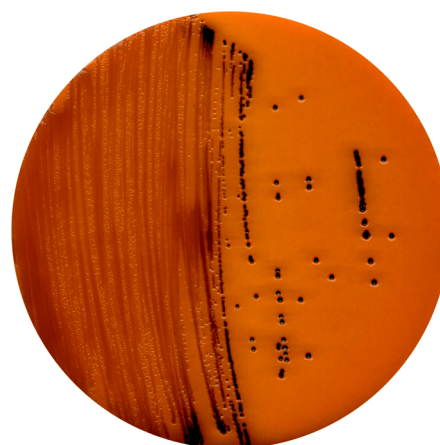
Product	Ordering No.	Pack size
DHL Agar acc. to SAKAZAKI	1.11435.0500	500 g

Quality control; incubation: 24 h at 35 °C

Test strains	Growth	Colony colours	Black centre	Culture Medium
<i>Escherichia coli</i> ATCC 25922	good / very good	red	-	precipitate
<i>Klebsiella pneumoniae</i> ATCC 10031	good / very good	pink	-	
<i>Salmonella typhimurium</i> ATCC 14028	good / very good	colourless	+	-
<i>Salmonella enteritidis</i> ATCC 13076	good / very good	colourless	+	-
<i>Proteus mirabilis</i> ATCC 14153	good / very good	colourless	±	brownish zone
<i>Shigella flexneri</i> ATCC 12022	fair / very good	colourless	-	-
<i>Enterococcus faecalis</i> ATCC 11700	none / poor			
<i>Staphylococcus aureus</i> ATCC 25923	none			
<i>Bacillus cereus</i> ATCC 11778	none			



Proteus mirabilis ATCC 14153



Salmonella enteritidis ATCC 13076