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.

IVD *in vitro diagnosticum –*
For professional use only

CE

See also General Instruction of Use
Warnings and precautions see ChemDAT®
(www.chemdat.info)

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

Principle

Microbiological method.

Mode of Action

H_2S production is indicated by a blackening of the colonies due to formation of iron sulfide. Although Proteus is H_2-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 and 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.

Suspend 63.5 g/litre, pour plates to give thick layers (about 20ml 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
Red, surrounded by a dark brown zone	Proteus vulgaris
Colourless with a black centre	Salmonella (incl. Arizona)
Colourless, large, flat	Shigella

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

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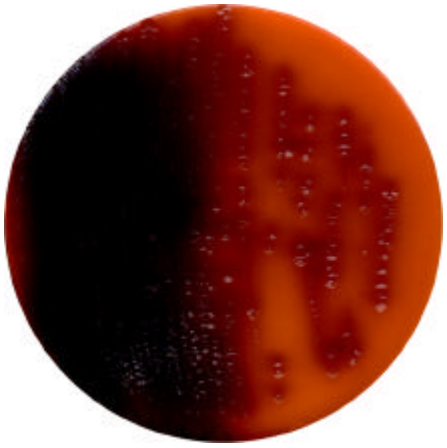
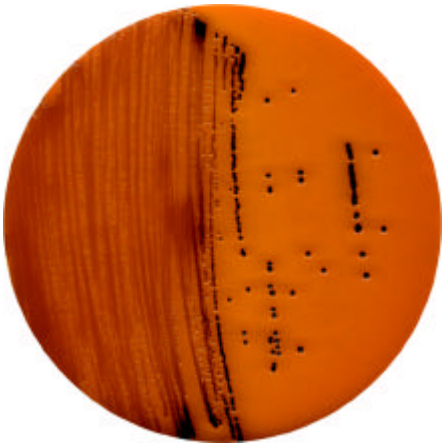
Quality control; incubation: 24 h at 35 °C

Test strains	Growth	Colony colours	Black centre	Culture Medium
Escherichia coli ATCC 25922	good / very good	red	-	precipitate
Klebsiella pneumoniae ATCC 10031	good / very good	pink	-	
Salmonella typhimurium ATCC 14028	good / very good	colourless	+	-
Salmonella enteritidis ATCC 13076	good / very good	colourless	+	-
Proteus vulgaris ATCC 13315	fair / good	pink	-	brownish zone
Proteus mirabilis ATCC 14153	good / very good	colourless	±	brownish zone
Shigella flexneri ATCC 12022	fair / very good	colourless	-	-
Enterococcus faecalis ATCC 11700	none / poor			
Staphylococcus aureus ATCC 25923	none			
Bacillus cereus ATCC 11778	none			



Proteus mirabilis ATCC 14153



Salmonella enteritidis ATCC 13076