

## TM 1605 - SAKAZAKII DHL AGAR

### INTENDED USE

Used for detection and isolation of pathogenic *Enterobacteriaceae* from all types of samples.

### PRODUCT SUMMARY AND EXPLANATION

*Enterobacteriaceae* have wide distribution. Many members form the normal gut and intestinal microflora in humans and animals. They are also found on plants and in soils and water. Some species occupy very limited ecological niches. They are a major component of the normal intestinal flora of humans but are relatively uncommon at other body sites. They account for nearly 50% of septicemia cases, more than 70% of urinary tract infections and a significant percentage of intestinal infections.

Sakazakii DHL Agar is modified Deoxycholate Agar as described by Sakazakii et al. Sakazakii DHL Agar stands for Sakazakii Deoxycholate-Hydrogen sulphide-Lactose Agar. The medium is selective for the identification and isolation of *Enterobacteriaceae* due to inclusions of sodium deoxycholate. However due to the low concentration of sodium deoxycholate coupled with the nutritionally rich media, fastidious strains of *Salmonella* and *Shigella* are able to grow on this medium. *Proteus*, *Morganella*, *Rettgerella* and *Providencia* colonies are surrounded by dark brown zones due to phenylalanine deamination.

### COMPOSITION

Ingredients	Gms / Ltr
Casein enzymic hydrolysate	10.000
Meat peptone	10.000
Meat extract	3.000
Lactose	10.000
Sucrose	10.000
L-Cysteine hydrochloride. H2O	0.200
Sodium citrate	1.000
Sodium deoxycholate	1.500
Sodium thiosulphate	2.000
Ammonium iron (III) citrate	1.000
Neutral red	0.030
Agar	15.000

### PRINCIPLE

Sodium deoxycholate inhibits gram-positive bacteria and also prevents swarming growth of *Proteus* species. Sulphur is released from thiosulphate or other sulphur-containing compounds in the form of sulphide. The H<sub>2</sub>S thus produced is detected by ferric ammonium citrate to form insoluble heavy metal sulphides that appear as a black precipitate. Phenylalanine is sourced from peptone that forms an iron complex with the ferric ions. The high concentration of sucrose in the medium permits the recovery of sucrose positive and lactose negative members of *Enterobacteriaceae*.

### INSTRUCTION FOR USE

- Dissolve 63.71 grams (the equivalent weight of dehydrated medium per litre) in 1000 ml distilled water.
- Heat to boiling to dissolve the medium completely.



- Sterilize by autoclaving at 121°C for 15 minutes.
- Mix well and pour into sterile Petri plates.

### QUALITY CONTROL SPECIFICATIONS

**Appearance of Powder** : Light yellow to light pink homogeneous free flowing powder.  
**Appearance of prepared medium** : Red coloured clear to slightly opalescent gel forms in Petri plates.  
**pH (at 25°C)** : 7.2±0.2

### INTERPRETATION

Cultural characteristics observed after an incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Color of the colony	H <sub>2</sub> S Production	Incubation Temperature	Incubation Period
<i>Escherichia coli</i>	25922	50-100	Good-luxuriant	>=50%	Red with bile precipitate	Negative	35-37°C	24-48 Hours
<i>Klebsiella pneumoniae</i>	10031	50-100	Good-luxuriant	>=50%	Pink	Negative	35-37°C	24-48 Hours
<i>Salmonella Typhimurium</i>	14028	50-100	Good-luxuriant	>=50%	Colourless	Negative	35-37°C	24-48 Hours
<i>Salmonella Enteritidis</i>	13076	50-100	Good-luxuriant	>=50%	Colourless	Negative	35-37°C	24-48 Hours
<i>Proteus vulgaris</i>	13315	50-100	Fair-good	20-40%	Pink with brownish zone	Negative	35-37°C	24-48 Hours
<i>Proteus mirabilis</i>	25933	50-100	Good-luxuriant	>=50%	Colourless with brownish zone	Variable	35-37°C	24-48 Hours
<i>Shigella flexneri</i>	12022	50-100	Fair-good	20-40%	Colourless	Negative	35-37°C	24-48 Hours
<i>Staphylococcus aureus</i>	25923	>=10 <sup>3</sup>	Inhibited	0%	-	-	35-37°C	24-48 Hours

<i>Enterococcus faecalis</i>	29212	50-100	None-poor	0-10%	Colourless	Negative	35-37°C	24-48 Hours
<i>Bacillus cereus</i>	10876	>=10 <sup>3</sup>	Inhibited	0%	-	-	35-37°C	24-48 Hours

**PACKAGING:**

In pack size of 500 gm bottles.

**STORAGE**

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.













**Product Deterioration:** Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

**DISPOSAL**

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

**REFERENCES**

1. Krieg N. R. and Holt J. G., (Eds.), 1984, Bergeys Manual of Systematic Bacteriology Vol. I, P-408-516. Williams and Wilkins Co. Baltimore.
2. Murray P. R., Baron J. H., Tenover F. C., Tenover P. C., (Ed.), 2003, Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C.
3. Sakazakii R., Namioka S., Osada A., a. Yamada C. A., 1960, Japan. J. Ex. Med., 30; 13-22.
4. Sakazakii R., Tamura K., Prescott L. M., Benzig Z., Sanyal S. C., a. Sinha, R., 1971, Indian J. Med. Res., 59; 1025-1034.
5. Koneman E. W., Allen S. D., Janda W. M., Schreckenberger P. C., Winn W.C. Jr., 1992, Colour Atlas and Textbook of Diagnostic Microbiology, 4 th Ed., J. B. Lippincott Company.

 GMP Good Manufacturing Practices Certified	 IVD For In Vitro Diagnostic Use	 QTY. Quantity	 LOT/ B. NO. Lot / Batch Number	 REF Catalogue Number	 Manufacturer
 Temperature Unit	 EC REP Authorized Representative	 European Conformity	 QR Code	 Consults Instructions for Use	 Best Before

**NOTE:** Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

**\*For Lab Use Only**  
Revision: 08 Nov., 2019