

TM 1007 – LEIFSON AGAR

INTENDED USE

For isolation of *Salmonella* and *Shigella* species from clinical and non-clinical samples.

PRODUCT SUMMARY AND EXPLANATION

Salmonella and *Shigella* are gram-negative, facultatively anaerobic, non-sporulating, non-motile rods in the family *Enterobacteriaceae*. They are widely distributed in animals affecting mainly the stomach and the intestines. Leifson Agar is recommended for isolation of *Salmonella* and *Shigella* species.

COMPOSITION

Ingredients	Gms / Ltr
Meat extract	5.000
Meat peptone	5.000
Lactose	10.000
Sodium thiosulphate	5.400
Sodium citrate	6.000
Ferric citrate	1.000
Sodium deoxycholate	3.000
Neutral red	0.020
Agar	12.000

PRINCIPLE

This medium consists of Meat extract and Meat peptone which provides nitrogenous and carbonaceous compounds, long chain amino acids and other essential growth nutrients. Sodium deoxycholate inhibit all gram-positive bacteria. Lactose is added to the medium to allow differentiation of lactose fermenting bacteria such as *Escherichia coli* from non-lactose fermenting species such as *Salmonella* and *Shigella* species. Lactose fermenting strains grow as red to pink colonies because of absorption of neutral red indicator. Sodium thiosulphate and ferric citrate forms the H₂S indicator system. Non-fermenting species grow as colorless colonies with black centers due to production of H₂S against *Shigella* which does not produce H₂S.

INSTRUCTION FOR USE

- Dissolve 47.42 grams in 1000 ml purified / distilled water.
- Heat to boiling to dissolve the medium completely. DO NOT AUTOCLAVE OR OVERHEAT. Excessive heating is detrimental.
- Cool to 45-50°C. Mix well and pour into sterile Petri plates.

QUALITY CONTROL SPECIFICATIONS

- Appearance of Powder** : Light yellow to pink homogeneous free flowing powder.
- Appearance of prepared medium** : Reddish orange coloured clear to slightly opalescent gel forms in Petri plates.
- pH (at 25°C)** : 7.5 ± 0.2

INTERPRETATION

Cultural characteristics observed after incubation.



Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Colour of colony	H ₂ S	Incubation Temperature	Incubation Period
<i>Escherichia coli</i>	22592	50-100	Poor	10-20%	Pink w/bile precipitate	Negative reaction	35-37°C	18-24 Hours
<i>Enterococcus faecalis</i>	29212	>=10 ⁴	Inhibited	0%	-	-	35-37°C	18-24 Hours
<i>Salmonella</i> Enteritidis	13076	50-100	Good-luxuriant	>=50%	Colourless	Positive reaction, black centered colonies	35-37°C	18-24 Hours
<i>Shigella flexneri</i>	12022	50-100	Good	40-50%	Colourless	Negative reaction	35-37°C	18-24 Hours
<i>Salmonella</i> Typhimurium	14028	50-100	Luxuriant	>=70%	Colourless	Positive reaction, black centered colonies	35-37°C	18-24 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

- Downes F. P. and Ito K., (Ed.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th Ed., American Public Health Association, Washington, D.C.
- Leifson, E., 1935, J. Pathol. Bacteriol., 40-581.
- Macfaddin J. 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol.1. Williams and Wilkins, Baltimore.



 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 <small>MedNet GmbH Buckstrasse 10 48163 Muenster, Germany</small>	 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**
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