

TM 125 - HUGH LEIFSON MEDIUM

INTENDED USE

For detecting aerobic and anaerobic breakdown of glucose.

PRODUCT SUMMARY AND EXPLANATION

Hugh Leifson Medium was formulated by Hugh and Leifson. They described the taxonomic significance of fermentative and oxidative metabolism of carbohydrates in gram-negative intestinal bacteria.

There are two ways of utilizing carbohydrates by microorganisms, namely fermentation and oxidation. This property may be frequently used for the differentiation of some bacteria.

COMPOSITION

Ingredients	Gms / Ltr
Peptone	2.000
Sodium chloride	5.000
Dipotassium hydrogen phosphate	0.300
Dextrose (Glucose)	10.000
Bromothymol blue	0.050
Agar	2.000

PRINCIPLE

The medium contains a high concentration of carbohydrate and low concentration of peptone to avoid the possibility of an aerobic organism utilizing peptone and producing an alkaline condition which would neutralize slight acidity produced by an oxidative organism. Dipotassium phosphate promotes fermentation and acts as pH controlling buffer. Agar concentration enables the determination of motility and aids in distribution of acid throughout the tube produced at the surface of medium. Bromthymol blue is the pH indicator.

INSTRUCTION FOR USE

- Dissolve 19.35 grams in 1000 ml purified/distilled water.
- Heat to boiling to dissolve the medium completely.
- Dispense into test tubes in duplicate for aerobic and anaerobic fermentation.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Cool the tubed medium in an upright position

QUALITY CONTROL SPECIFICATIONS

- Appearance of Powder** : Light yellow to bluish green homogeneous free flowing powder.
- Appearance of prepared medium** : Greenish blue colored, clear to slightly opalescent gel forms in tubes as butts.
- pH (at 25°C)** : 6.8±0.2

INTERPRETATION

Cultural characteristics observed after an incubation.



Microorganism	ATCC	Inoculum (CFU/ml)	Motility	Aerobic fermentation	Anaerobic fermentation	Incubation Temperature	Incubation Period
<i>Klebsiella aerogenes</i>	13048	50-100	Positive, growth away from stabline causing turbidity	Acid (yellow) and gas production	Acid (yellow) and gas production	35-37°C	18-48 Hours
<i>Escherichia coli</i>	25922	50-100	Positive, growth away from stabline causing turbidity	Acid (yellow) and gas production	Acid (yellow) and gas production	35-37°C	18-48 Hours
<i>Pseudomonas aeruginosa</i>	27853	50-100	Positive, growth away from stabline causing turbidity	Acid (yellow) production	Unchanged (green) or alkaline (blue)	35-37°C	18-48 Hours
<i>Salmonella Typhi</i>	6539	50-100	Positive, growth away from stabline causing turbidity	Acid (yellow) and gas production	Acid (yellow) and gas production	35-37°C	18-48 Hours
<i>Shigella sonnei</i>	25931	50-100	Negative, growth along the stabline, surrounding medium	Acid (yellow) production	Acid (yellow) and gas production	35-37°C	18-48 Hours

PACKAGING:

In pack size of 100 gm and 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. Finegold S. M., Martin W. J., and Scott E. G., 1978, Bailey and Scotts Diagnostic Microbiology, 5th Ed., The C.V. Mosby Co., St. Louis.
2. Hugh and Leifson, 1953, J. Bacteriol., 66:24.
3. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
4. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock, D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1



 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 MedNet GmbH Baukstrasse 10, 49163 Muenster, Germany 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**
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