TMS 09- UREA AGAR SLANT

INTENDED USE

To differentiate gram-negative bacteria on the basis of citrate utilization.

PRODUCT SUMMARY AND EXPLANATION

Urea Agar is used to detect urease production. Urea Agar described by Christensen detected urease activity by all rapidly urease-positive *Proteus* species and other slower urea positive members of the Enterobacteriaceae. This was accomplished by- adding glucose to the medium, decreasing the peptone concentration and decreasing the buffering system, as a less buffered medium detects even smaller amount of alkali. This medium may also be used in the detection of urease activity in other gram-negative organisms, such as *Pseudomonas*, *Pasteurella*, and *Brucella*. Webb, et al. also reported that Urea Agar is useful in differentiating *Cryptococcus* from other yeast species.

COMPOSITION

Ingredients	Gms / Ltr
Urea	20.000
Agar	15.000
Sodium chloride	5.000
Disodium phosphate	1.200
Peptic digest of animal tissue	1.000
Dextrose	1.000
Monopotassium phosphate	0.800
Phenol red	0.012

PRINCIPLE

Peptic digest of animal tissues is the source of essential nutrients. Dextrose is the energy source. Sodium chloride maintains the osmotic equilibrium of the medium whereas phosphates serve to buffer the medium. Urea is hydrolyzed to liberate ammonia. Phenol red indicator detects the alkalinity generated by visible colour change from orange to pink. Prolonged incubation may cause alkaline reaction in the medium. A medium without urea serves as negative control to rule out false positive results. Also, all urea test media rely on the alkalinity formation and so they are not specific for determining the absolute rate of urease activity. The utilization of proteins may raise the pH to alkalinity due to protein hydrolysis and excess of amino acids liberation results in false positive reaction.

INSTRUCTION FOR USE

Inoculate the bacterial culture with an inoculating needle by streaking the slants.

QUALITY CONTROL SPECIFICATIONS

Appearance	:	Yellowish orange coloured, clear to slightly opalescent gel forms in tubes as slants
Quantity of Medium	:	8 ml of medium in glass tube.
pH (at 25°C)	:	6.8 ± 0.2

INTERPRETATION

Cultural characteristics observed after an incubation.

Microorganism	ATCC	Growth	Urease production	Incubation Temperature	Incubation Time
Escherichia coli	25922	Good	Negative	35-37°C	18 - 24 hours
# Klebsiella aerogenes	13048	Good	Negative	35-37°C	18 - 24 hours
Salmonella typhimurium	14028	Good	Negative	35-37°C	18 - 24 hours
Proteus vulgaris	13315	Good	Positive	35-37°C	18 - 24 hours

Formerly known as *Enterobacter aerogenes*

STORAGE

On receipt, store tubes in the dark at 2 – 8°C. Avoid freezing and overheating. Do not open until ready to use. Minimize exposure to light. Tubed media stored as labeled until just prior to use may be inoculated up to the expiration date and incubated for the recommended incubation times. Allow the medium to warm to room temperature before inoculation. **Product Deterioration:** Do not use tubes if they show evidence of microbial contamination, discoloration, drying or other signs of deterioration.

PACKAGING:

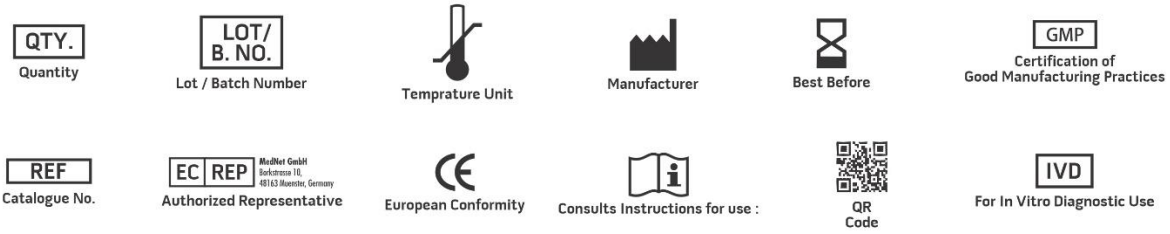
Kit of 10 Ready-To-Use Slants containing 8 ml medium in each glass tube.

DISPOSAL

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques.

REFERENCES

1. Christensen W. B., 1946, J. Bacteriol., 52:461.
2. MacFaddin J. F., 2000, Biochemical Tests for Identification of Medical Bacteria, 3rd Ed., Williams and Wilkins, Baltimore. Md.
3. Farmer J. J. III, McWhorter A. C., Huntley G. A., Catignani J., J. Clin. Microbiol. 1975: 1 (1): 106-107.
4. MacFaddin J. F, 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1, Williams and Wilkins, Baltimore, Md.
5. King, E.O. 1960. The Identification of Unusual Pathogenic Gram Negative Bacteria, U.S.D.H.E.W., CDC, Atlanta, GA.
6. Webb, C.D., et al. 1973. Identification of Yeasts, U.S.D.H.E.W., CDC, Atlanta, GA.



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

***For Lab Use Only**

Revision: 27thNov. 2019