



## CTA Medium

- For in vitro use only -

Catalogue No. TC85-92

Our CTA Medium is used to differentiate between fastidious organisms based on their motility and their ability to ferment carbohydrates.

This medium is based on the work of Vera whom developed a simple medium for the maintenance and identification of gonococcus.

When a carbohydrate is present in the CTA medium it allows for the differentiation of fastidious bacteria based on their fermentation reactions. The semisolid nature of the medium allows for easy reading of results as the acid from carbohydrate degradation stays localized and produces a quicker color change than a broth. Motility can also be readily detected by stabbing into the medium and seeing if the organism can diffuse into the medium. Motile organisms extend from the stab line and produce turbidity or cloudiness throughout the medium. Non-motile organisms grow only along the stab line and leave the surrounding medium clear.

### Formula per Litre of Medium

Peptic Digest of Casein.....	20.0 g
L-Cystine.....	0.5 g
Sodium Chloride.....	5.0 g
Sodium Sulfite.....	0.5 g
Agar.....	2.5 g
Phenol Red.....	17.0 mg
Carbohydrate.....	10.0 g

pH 7.3 ± 0.2

### Recommended Procedure

1. Allow medium to reach room temperature prior to inoculation.
2. Using growth from an overnight, pure culture, heavily inoculate the medium by stabbing into center of the medium several times to a depth of ¼ inch.

3. A control tube (Dalynn TC85) that contains no carbohydrate should also be inoculated for results comparison.
4. Cap and incubate tubes aerobically at 35°C.
5. Check tubes daily for up to four days.

### Interpretation of Results

A positive carbohydrate fermentation reaction is the development of a yellow color at the inoculated area.

A negative carbohydrate fermentation reaction is demonstrated by no color change or a color change to pink or red. The pink or red color change is indicative of peptone degradation and lack of carbohydrate fermentation.

A positive motility test is turbidity or cloudiness throughout the medium. A negative test is growth only at the stab line leaving the surrounding medium clear.

- *Aerobic incubation is necessary for Neisseria species as CO<sub>2</sub> incubation may lead to erroneous results*
- *Ensure tubes are heavily inoculated or false negative reactions may occur*
- *Some Neisseria stains may grow poorly due to their fastidiousness and result in false negative reactions*

### Quality Control

After checking for correct pH, colour, depth, and sterility, the following organisms can be used to determine the growth performance of the completed medium.

Organism	Expected Result (Growth and Carbohydrate)
<b>CTA Control</b>	
<i>Neisseria meningitidis</i> ATCC 13090	Growth, negative
<i>Neisseria gonorrhoeae</i> ATCC 43069	Growth, negative
<b>CTA Dextrose</b>	
<i>Neisseria gonorrhoeae</i> ATCC 43069	Growth, positive
<i>Morexella catarrhalis</i> ATCC 25240	Growth, negative
<b>CTA Lactose</b>	
<i>Neisseria lactamica</i> ATCC 23970	Growth, positive
<i>Morexella catarrhalis</i> ATCC 25240	Growth, negative
<b>CTA Maltose</b>	
<i>Neisseria meningitidis</i> ATCC 13090	Growth, positive
<i>Morexella catarrhalis</i> ATCC 25240	Growth, negative
<b>CTA Sucrose</b>	
<i>Neisseria sicca</i> ATCC 9913	Growth, positive
<i>Morexella catarrhalis</i> ATCC 25240	Growth, negative
<b>CTA Xylose</b>	
<i>Klebsiella pneumoniae</i> ATCC 13883	Growth, positive
<i>Morexella catarrhalis</i> ATCC 25240	Growth, negative
<b>CTA Fructose</b>	
<i>Enterobacter aerogenes</i> ATCC 13048	Growth, positive
<i>Morexella catarrhalis</i> ATCC 25240	Growth, negative
<b>CTA Mannitol</b>	
<i>Enterococcus faecalis</i> ATCC 25922	Growth, positive
<i>Morexella catarrhalis</i> ATCC 25240	Growth, negative

## Storage and Shelf Life

Our CTA Mediums should be stored in an upright position at 4 to 8°C and protected from light. Under these conditions the medium has a shelf life of 16 weeks from the date of manufacture.

## References

1. Vera HD. A simple medium for identification and maintenance of gonococcus and other bacteria. J Bacteriol 1948; 55:531.
2. MacFaddin JF. Media for isolation-cultivation-identification-maintenance of medical bacteria, Vol I. Baltimore MD: Williams & Wilkins, 1985.
3. Murray PR et al. Manual of clinical microbiology, 7<sup>th</sup> ed. Washington, DC: ASM Press, 1999.
4. MacFaddin JF. Biochemical tests for identification of medical bacteria. 3<sup>rd</sup> ed. Philadelphia: Lippincott Williams & Wilkins, 2000.

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