CYSTINE TRYPTIC AGAR (CTA)

INTENDED USE
Remel CTA Agar is a semisolid medium recommended for use in qualitative procedures for determining the fermentation reactions of fastidious organisms such as *Neisseria*, pneumococci, streptococci, and nonsporeforming anaerobes.

SUMMARY AND EXPLANATION
Cystine Tryptic Agar (CTA) was developed by Vera for the identification and maintenance of *Neisseria gonorrhoeae* and other bacteria.[1] CTA w/o Carbohydrates can be used for the maintenance of stock cultures while CTA w/ Carbohydrates differentiates fastidious organisms by means of fermentation reactions. Motility can be detected in the semisolid medium when the medium is inoculated by a stab line.[2] Herrmann recommended avoiding the addition of yeast extract, serum, or ascitic fluid to carbohydrate media.[3] However, to facilitate the fermentation reactions of *Neisseria* spp., the addition of ascitic fluid is recommended.[4]

PRINCIPLE
CTA medium contains cystine and casein peptone which supply essential nutrients for the growth of fastidious organisms. When the carbohydrate present is fermented, organic acids are produced and the medium becomes acidified. This results in the phenol red indicator changing from orange-red to yellow. A negative carbohydrate test (neutral orange color) results from deamination of the peptone in the absence of a carbohydrate source. Ascitic fluid may be added to CTA media as an enrichment fluid to facilitate cultivation of fastidious organisms such as *Neisseria* spp.

REAGENTS (CLASSICAL FORMULAE)*

Casein Peptone	20.0	g	Sodium Sulfite	0.5	g
Sodium Chloride	5.0	g	Phenol Red	17.0	mg
L-Cystine	0.5	g	Agar	2.5	g
			Demineralized Water	1000.0	ml

pH 7.3 ± 0.2 @ 25°C

*Adjusted as required to meet performance standards.

PRECAUTIONS
This product is For Laboratory Use only. It is not intended for use in the diagnosis of disease or other conditions.

PREPARATION OF DEHYDRATED CULTURE MEDIUM
1. Suspend 28.5 g of medium in 1000 ml of demineralized water.
2. Add carbohydrate (0.5 to 1.0%) if desired, and adjust pH if necessary.
3. Heat to boiling with agitation to completely dissolve.
4. Dispense into appropriate containers and sterilize at not more than 118°C for 15 minutes.

PROCEDURE
1. Consult current editions of appropriate references for the recommended procedure for sample preparation, inoculation, testing, and interpretation.

INTERPRETATION OF THE TEST
Fermentation:

Positive Test -	Yellow color development
Negative Test -	Orange-red color

Motility:

Positive Test -	Growth out from the stab line of inoculation
Negative Test -	Growth along the stab line with the surrounding agar remaining clear

QUALITY CONTROL
Each lot number of CTA Agar has been manufactured, packaged, and processed in accordance with current Good Manufacturing Practice regulations. All lot numbers have been tested using the following quality control organisms and have been found to be acceptable. Testing of control organisms should be performed in accordance with established laboratory quality control procedures. If aberrant quality control results are noted, sample results should not be reported.

LIMITATIONS
1. All isolates of *Neisseria gonorrhoeae* from medical legal cases should be confirmed with at least two methodologies.[5]
2. *Neisseria* spp. usually produces acid only in the upper third of the medium; a strong acid (yellow) throughout the medium may indicate contamination. Further testing following established laboratory procedures may be required for definitive identification.[6]

BIBLIOGRAPHY

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Refer to the front of Remel *Technical Manual of Microbiological Media* for **General Information** regarding precautions, product storage and deterioration, sample collection, storage and transportation, materials required, quality control, and limitations.

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