# TM 1961 – ANAEROBIC CNA AGAR BASE

## INTENDED USE
For selective isolation of anaerobic Streptococci.

## PRODUCT SUMMARY AND EXPLANATION
The genus *Streptococcus* is comprised of a wide variety of both pathogenic and commensal gram-positive bacteria, which are found to inhabit a wide range of hosts, including humans, horses, pigs and cows. They are facultatively anaerobic. Within the host, Streptococci are often found to colonize the mucosal surfaces of the mouth, nares and pharynx. However, in certain circumstances, they may also inhabit the skin, heart or muscle tissue. Streptococci are generally considered as fastidious organisms as they have exacting nutritional requirements. Columbia Agar formulated by Ellner et al. was designed to obtain luxuriant growth of various fastidious organisms. The media was rendered selective by the addition of selective agents, colistin (C) and nalidixic acid (NA). This supplemented Columbia Agar (with C & NA) exhibited luxuriant growth of fastidious organisms like Streptococci, Enterococci, and Staphylococci etc. on supplementation with sterile defibrinated sheep blood. Anaerobic CNA Agar Base is a modification of Columbia CNA Agar base with additional enrichment supplements i.e. vitamin K1 and hemin.
Columbia CNA Agar Base is used for the selective isolation of anaerobic gram-positive cocci including Streptococci. Anaerobic CNA Agar plates should ideally be reduced prior to inoculation by keeping under anaerobic conditions for 18-24 hours. Samples can be directly streaked on the plates.

## COMPOSITION

| Ingredients | Gms / Ltr |
|---|---|
| **Tryptone** | 12.000 |
| **Peptone** | 5.000 |
| **Yeast extract** | 3.000 |
| **Beef extract** | 3.000 |
| **Corn starch** | 1.000 |
| **Dextrose (Glucose)** | 1.000 |
| **Sodium chloride** | 5.000 |
| **Dithioerythreitol (DTE)** | 0.100 |
| **L-Cystine hydrochloride** | 0.500 |
| **Vitamin K1** | 0.010 |
| **Hemin** | 0.010 |
| **Colistin** | 0.010 |
| **Nalidixic acid** | 0.010 |
| **Agar** | 13.500 |

## PRINCIPLE
Tryptone, peptone, yeast extract and beef extract serve as source of carbon, nitrogen, and essential nutrients. Corn starch neutralizes the toxic metabolites formed. Dextrose serves as the carbon source while sodium chloride maintains the osmotic equilibrium. Dithiothreitol and L- cystine help to create anaerobic conditions. Vitamin K1 and hemin stimulate growth of anaerobic bacteria. Colistin and Nalidixic acid in the medium inhibit accompanying gram-negative enteric bacteria by disrupting the cell membrane and blocking DNA replication respectively.

## INSTRUCTION FOR USE

- Dissolve 44.14 grams in 1000 ml purified / distilled water.
- Heat to boiling to dissolve the medium completely.
- Dispense in 100 ml amounts and sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Cool to 45-50°C and aseptically add 5 ml sterile defibrinated sheep blood to every 100 ml medium.
- Mix well and pour into sterile Petri plates.

## QUALITY CONTROL SPECIFICATIONS

**Appearance of Powder** : Cream to yellow homogeneous free flowing powder.

**Appearance of prepared medium** : Basal medium: Yellow coloured, clear to slightly opalescent gel. After addition of 5%v/v sterile defibrinated sheep blood: Cherry red coloured, opaque gel forms in Petri plates.

## INTERPRETATION

Cultural characteristics observed after incubation.

| Microorganism | ATCC | Inoculum (CFU/ml) | Growth | Recovery | Incubation Temperature | Incubation Period |
|---|---|---|---|---|---|---|
| *Escherichia coli* | 25922 | 50-100 | None-poor | 0-10% | 35-37°C | 2-7 Days |
| *Peptostreptococcus anaerobius* | 27337 | 50-100 | Good | 40-50% | 35-37°C | 2-7 Days |

## PACKAGING:

In pack size of 100 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. Ellner, Stoessel, Drakeford and Vasi, 1966, Am. J. Clin. Pathol., 40. 502
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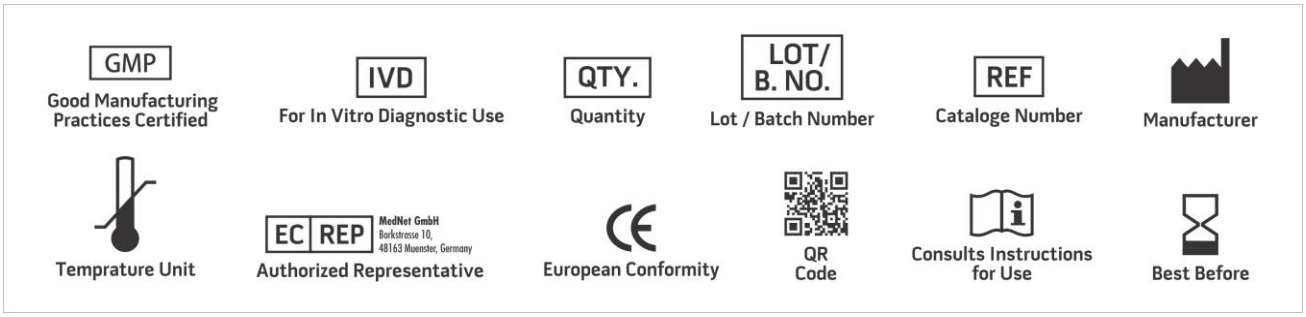
3. Esteve Z. 1984, Lab Med., 15:258
4. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
5. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1




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

***For Lab Use Only**

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