# WILKINS CHALGREN MEDIUM

**CAT Nº: 1503**

For susceptibility testing as well as for the isolation and culture of anaerobic bacteria in general from clinical samples

## FORMULA IN g/l

| | | | |
|---|---|---|---|
| Tryptone | 10.00 | Sodium Pyruvate | 1.00 |
| Bacteriological Peptone | 10.00 | L-Arginine | 1.00 |
| Yeast Extract | 5.00 | Vitamin K1 | 0.0005 |
| Sodium Chloride | 5.00 | Hemin | 0.005 |
| Dextrose | 1.00 | Bacteriological Agar | 15.00 |

**Final pH 7.1 ± 0.2 at 25ºC**

## PREPARATION

Suspend 48 grams of medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Sterilize in autoclave at 121ºC for 15 minutes. Cool to 45-50ºC, mix well and dispense into plates. The prepared medium in plates should be stored at 8-15°C. The prepared medium in tubes should be stored at 2-8ºC. The color of the prepared medium is amber.

The dehydrated medium should be homogeneous, free-flowing and beige in color. If there are any physical changes, discard the medium.

## USES

WILKINS CHALGREN MEDIUM was designed for use in the determination of minimum inhibitory concentrations (MIC) of antibiotics for anaerobic bacteria by the agar dilution method. It is also recommended for the isolation of anaerobic organisms from clinical specimens. It has the same performance in Petri dishes as in tubes.

It has the advantage over other media in that it does not need the addition of blood to obtain the satisfactory growth of clinically important anaerobic bacteria.

Tryptone and Bacteriological peptone provide nitrogen, vitamins, minerals and amino acids essential for growth. Yeast extract is source of vitamins, particularly the B-group and other growing factors to cultivate *Bacteroides melaninogenicus* and *Peptostreptococcus anaerobius*. Dextrose is the fermentable carbohydrate providing carbon and energy. L-Arginine provides amino acids for the growth of *Eubacterium lentum*. Sodium chloride supplies essential electrolytes for transport and osmotic balance. Sodium pyruvate acts as an energy source for asaccharolytic cocci such as *Veillonella* and to catalyze and degrade traces of hydrogen peroxide which affects the metabolism of anaerobes. Haemin and vitamin K1 are growth factors. Haemin is essential for the growth of *Bacteroides* species. Bacteriological agar is the solidifying agent.

Inoculate and incubate at a temperature of 35 ± 2°C during 24 – 48 hours.

## MICROBIOLOGICAL TEST

The following results were obtained in the performance of the medium from type cultures after incubation at a temperature of 35 ± 2°C and observed after 24 - 48 hours.

| Microorganisms | Growth |
|---|---|
| *Bacteroides fragilis* ATCC 25285 | Good |
| *Bacteroides melaninogenicus* ATCC 25611 | Good |
| *Clostridium perfringens* ATCC 13123 | Good |

## BIBLIOGRAPHY

Wilkins T.D. and Chalgren S. (1976) Antimicrob. Agents. Chemother., 10. 926-928.

Sutter V.L., Barry A.L., Wilkins T.D. and Zabransky R.J. (1 979) and Microb. Agents Chemother, 16. 495-502. Brown W.J. and Waatti P.E. (1980) Antimicrob. Agents Chemother., 17. 629-635.

## STORAGE

Once opened keep powdered medium closed to avoid hydration.