

## Wilkins-Chalgren Broth (NCM0219)

### Intended Use

Wilkins-Chalgren Broth is used for the cultivation of anaerobic microorganisms in a laboratory setting. Wilkins-Chalgren Broth is not intended for use in the diagnosis of disease or other conditions in humans.

### Description

Wilkins-Chalgren Broth is derived from Wilkins-Chalgren Agar. Wilkins-Chalgren Broth provides good growth of anaerobes. This medium was selected because it does not require the addition of blood to support satisfactory growth of most anaerobes. Wilkins-Chalgren Broth is the same formula as Wilkins-Chalgren Agar with agar omitted.

The survival of anaerobic bacteria is dependent on their sensitivity to oxygen, nutritional requirements, appropriate collection, culture medium, and incubation time and temperature.

### Typical Formulation

Enzymatic Digest of Casein	10.0 g/L
Enzymatic Digest of Animal Tissue	10.0 g/L
Yeast Extract	5.0 g/L
Sodium Chloride	5.0 g/L
Dextrose	1.0 g/L
L-Arginine	1.0 g/L
Sodium Pyruvate	1.0 g/L
Hemin	0.005 g/L
Vitamin K	0.0005 g/L

Final pH: 7.1 ± 0.2 at 25°C

Formula may be adjusted and/or supplemented as required to meet performance specifications.

### Precaution

Refer to SDS

### Preparation

1. Dissolve 33 g of the medium in one liter of purified water.
2. Mix thoroughly.
3. Autoclave at 121°C for 15 minutes.

### Quality Control Specifications

**Dehydrated Appearance:** Powder is homogeneous, free flowing, and light beige.

**Prepared Appearance:** Prepared medium is light to medium amber and clear to lightly hazy.

**Expected Cultural Response:** Cultural response in Wilkins-Chalgren Broth incubated anaerobically at 35 ± 2°C and examined for growth after 24 - 72 hours.

Microorganism	Approx. Inoculum (CFU)	Expected Results
<i>Bacteroides fragilis</i> ATCC® 25285	10 - 300	Growth
<i>Clostridium novyi</i> ATCC® 7659	10 - 300	Growth
<i>Clostridium perfringens</i> ATCC® 13124	10 - 300	Growth
<i>Prevotella melaninogenica</i> ATCC® 25845	10 - 300	Growth

The organisms listed are the minimum that should be used for quality control testing.

## **Test Procedure**

For a complete discussion of aerobic and anaerobic bacteria from clinical specimens, refer to appropriate procedures outlined in the references. Refer to standard methods for the examination of bacteria in food.

## **Results**

Refer to appropriate references for results.

## **Expiration**

Refer to expiration date stamped on container. The dehydrated medium should be discarded if not free flowing, or if appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

## **Limitation of the Procedure**

Due to nutritional variation, some strains may be encountered that grow poorly or fail to grow on this medium.

## **Storage**

Store dehydrated culture media at 2-30°C away from direct sunlight. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light by keeping container tightly closed.

## **References**

1. Wilkins, T. D., and S. Chalgren. 1976. Medium for use in antibiotic susceptibility testing of anaerobic bacteria. *Antimicrob. Agents. Chemother.* 10:926.
2. Isenberg, H. D. (ed.). 1992. *Clinical microbiology procedures handbook*. American Society for Microbiology, Washington, D.C.
3. Murray, P. R., E. J. Baron, M. A. Pfaller, F. C. Tenover, and R. H. Tenover (eds.). 1995. *Manual of clinical microbiology*, 6<sup>th</sup> ed. American Society for Microbiology, Washington, D.C.
4. Baron, E. J., L. R. Peterson, and S. M. Finegold. 1994. *Bailey & Scott's diagnostic microbiology*, 9<sup>th</sup> ed. Mosby-Year Book, Inc., St. Louis, MO.
5. [www.fda.gov/Food/ScienceResearch/LaboratoryMethods/BacteriologicalAnalyticalManualBAM/default.htm](http://www.fda.gov/Food/ScienceResearch/LaboratoryMethods/BacteriologicalAnalyticalManualBAM/default.htm)
6. Vanderzant, C., and D. F. Splittstoesser (eds.). 2015. *Compendium of methods for the microbiological examination of food*, 4<sup>th</sup> ed. American Public Health Association, Washington, D.C.