Wilkins Chalgren Agar

Medium for culture of anaerobes.

INTENDED PURPOSE

Wilkins Chalgren Agar is a medium used for isolating and cultivating anaerobes.

DESCRIPTION

Wilkins Chalgren Agar is a medium for the isolation and cultivation of anaerobic organisms. Anaerobic bacteria are important pathogens that can cause a variety of infections. Anaerobic microorganisms, including pathogens such as *Clostridium perfringens*, *Bacteroides fragilis* and *Fusobacterium nucleatum*. Anaerobes are endogenous in nature, as they are a primary component of the flora of mucus membranes and gastrointestinal tract.

TYPICAL FORMULA*	(g/l)
Peptone	10.0
Tryptone	10.0
Yeast Extract	5.0
Glucose	1.0
Sodium Pyruvate	1.0
Sodium Chloride	5.0
L-Arginine	1.0
Hemin	0.005
Vitamin K	0.0005
Agar	15.0
Final pH 7.1 ± 0.2 at 25°C	

*Adjusted and/or supplemented as required to meet performance specifications.
Grams per liter of purified water

METHOD PRINCIPLE

Peptone and tryptone provide nitrogen and amino acids. Yeast extract is the vitamin source. Sodium chloride maintains the osmotic balance of the medium. Glucose is the carbon source. L-arginine and sodium pyruvate are added to provide the proper environment for anaerobic growth. Hemin and vitamin K are growth factors. Agar is the solidifying agent.

PREPARATION

Dehydrated medium

Suspend 48 g of the powder in 1 liter of distilled or deionized water. Mix well. Heat to boil for 1 minute shaking frequently until completely dissolved. Sterilize in autoclave at 121°C for 15 minutes. Cool to 45-50 °C, mix well and dispense into plates.

MATERIALS REQUIRED BUT NOT PROVIDED

Standard microbiological supplies and equipment such as: inoculating loops, sterile cotton swabs, physiological solution (0.85% NaCl), incubator, quality control organisms, antibiotic agent disks.

TEST PROCEDURE

Ensure there is no visible moisture on the plates before use.

Inoculate the plates by directly streaking the sample on the agar surface or spread the material from an enrichment culture to obtain well-isolated colonies.

Plates are incubated in an inverted position at 35 ± 2°C for 24 hours in anaerobic atmosphere.

For more details, consult appropriate guidance.

INTERPRETING RESULTS

After incubation, observe the growth of colonies. *Clostridium* spp. will show as straw colonies.

STORAGE

Store at 10-30°C away from light. Do not use the product beyond its expiry date on the label or if product shows any evidence of contamination or any sign of deterioration.

SHELF LIFE

Ready-to-use plates: 6 months

Dehydrated medium: 4 years.

QUALITY CONTROL

Appearance of dehydrated medium: Homogeneous, cream to yellow.

Appearance of prepared medium: Slightly opalescent, light to medium amber

Expected Cultural Response:

Control strains	Inoculum	Incubation	Criteria	Specification
Clostridium perfringens ATCC® 13124	50-100 CFU	40-48 h / 35 ± 2°C / anaerobic	Good growth ($P_R \geq 0.7$)	Good growth
Clostridium sporogenes ATCC® 19404				Good growth
Clostridium difficile ATCC® 70057				Good growth
Bacteroides fragilis ATCC® 25285				Good growth

A productivity ratio (PR) of 0.7 is equivalent to a recovery rate of 70%.

Please refer to the actual batch related Certificate of Analysis (CoA).

PERFORMANCE CHARACTERISTICS

Performance testing of Wilkins Chalgren Agar was carried out using the QC strains listed above. The results obtained met the established criteria.

LIMITATIONS

Invalid results can be caused by poor sample quality, improper sample collection, improper transportation, improper laboratory processing, or a limitation of the testing technology. The operator should understand the principles of the procedures, including its performance limitations, in advance of operation to avoid potential mistakes.

Since Wilkins Chalgren Agar is not a selective medium. This medium allows the growth of obligate and facultative anaerobes alike.

Growth depends on the requirements of each individual microorganism. It is therefore possible that certain strains which have specific requirements may not develop.

WARNING AND PRECAUTIONS

For professional use only. Operators must be trained and have certain experience. Please read the instructions carefully before using this product. Reliability of assay results cannot be guaranteed if there are any deviations from the instructions in this document.

Consult the Safety Data Sheet (SDS) for information regarding hazards and safe handling practices.

DISPOSAL OF WASTE

Disposal of waste must be carried out according to national and local regulations in force.

BIBLIOGRAPHY

See the references at the end of this document.

TABLE OF SYMBOLS

See the table of symbols at the end of this document.

See ordering info below. There may be additional product ref. numbers as well. For an updated listing of available products, visit **liofilchem.com**

Product	Format	Packaging	Ref.
Wilkins Chalgren Agar	Plate 90 mm	20 (2 x 10) plates	10053
	Dehydrated medium	500 g	610404

Revision History

Revision	Release Date	Change Summary
0	2024-02-28	Document creation

This IFU document and the SDS are available from the online Support Center:

liofilchem.com/ifu-sds

References

1. Wilkins T.D. and Chalgren S. 1976 Antimicrob. Agents. Chemother. 10. 926-928.
2. Public Health England. 2015. Identification of Anaerobic Gram-Negative Rods. UK Standards for Microbiology Investigations. ID 25 Issue 2. https://www.gov.uk/ukstandards-for-microbiology-investigations-smi-quality-and-consistency-in-clinicallaboratories

Table of Symbols

LOT	Batch code
REF	Catalogue number
	Manufacturer
	Use by
	Fragile, handle with care
	Temperature limitation
	Contains sufficient for <n> tests
	Consult instructions for use
	Do not reuse
	Keep away from sunlight

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