Product Insert

YEAST CASITONE FATTY ACIDS BROTH WITH CARBOHYDRATES (YCFAC BROTH)

Product

AS-680 Yeast Casitone Fatty Acids Broth with Carbohydrates (YCFAC BROTH) 10 tubes / pkg

Intended Use

Yeast Casitone Fatty Acids Broth with Carbohydrates (YCFAC BROTH) is an enriched nonselective media for the cultivation of most anaerobic bacteria and other fastidious microorganisms.

Summary

YCFAC is an enriched nonselective media used in the isolation and cultivation of a wide variety of bacteria found in the human gut, including *Faecalibacterium prausnitzii*. The basic nutritive components of this media come from yeast extract and pancreatic digest of casein. This basal medium is then enriched with various specific vitamins, sugars, and fatty acids to ensure growth of even the most fastidious gut microbes. This media is prepared, dispensed, and packaged under oxygen-free conditions to prevent the formation of oxidized products prior to use.

Formulation*

Casitone	10.00	g
Yeast Extract	2.50	g
Sodium Bicarbonate	4.00	g
Glucose	2.00	g
Cellobiose	2.00	g
Maltose	2.00	g
Potassium Phosphate Monobasic	0.45	g
Potassium Phosphate Dibasic	0.45	g
Sodium Chloride	0.90	g
Ammonium Sulfate	0.90	g
Magnesium Sulfate Heptahydrate	0.09	g
Calcium Chloride	0.09	g
Hemin (0.1% solution)	10.00	mL
Vitamin Mix	10.00	mL
Resazurin (0.025% solution)	4.00	mL
L-Cysteine (25.0% solution)	4.00	mL
Volatile Fatty Acid Solution	2.90	mL
DI Water	1.00	L

Final pH: 6.8 ± 0.3 at 25° C
Final weight: 16.0 g ± 1.6 g

*Approximate formula. Adjust and/or supplemented as required to meet performance criteria.

Precautions

For *IN VITRO DIAGNOSTIC USE* only. Utilize approved biohazard precautions and aseptic technique when using this product. This product is for use only by properly-trained and qualified personnel. Sterilize all biohazard waste prior to disposal.

Storage and Shelf Life

Storage: Upon receipt, store at room temperature in original package until used. Avoid overheating or freezing. Do not use media if there are signs of deterioration (discoloration due to oxidation of media) or contamination. The expiration date applies to the product in its original packaging and stored as directed. Do not use product past the expiration date shown on the label. Do not use tubes that have been stored under aerobic conditions for more than five months.

Shelf Life: 90 days from date of manufacture.

Procedure

Specimen Collection: Protect specimens for anaerobic culture from oxygen during collection, transportation, and processing. Consult appropriate references for detailed instructions concerning collection and transportation of anaerobes.

Methods for Use: YCFAC Broth should be inoculated directly with clinical specimen. Inoculated tubes should be immediately placed in an anaerobic atmosphere, incubating at 35-37°C for 18-48 hours. Extended periods of incubation may be required to recover some anaerobes. Detailed instructions for processing anaerobic cultures can be found in the listed references.

Materials Required, But Not Provided

Standard microbiological supplies and equipment such as loops, saline blanks, slides, staining supplies, microscope, incinerator / autoclave, incubators, anaerobic chamber / anaerobic jars, disinfectant, other culture media, and serological / biochemical reagents.

Interpretation of Results

If used properly, YCFAC BROTH supports good growth of many fastidious and non-fastidious anaerobes isolated from clinical specimens.

Limitations

YCFAC Broth will not provide complete information for identification of bacterial isolates. Additional test procedures and media are required for complete identification. Consult reference materials for additional information.

Quality Control

The following organisms are routinely used for quality control testing at Anaerobe Systems.

Organism Tested	ATCC #	Results	Time
Faecalibacterium prausnitzii	27768	Growth	24 – 48 hrs
Bacteroides thetaiotaomicron	29741	Growth	24 – 48 hrs
Bifidobacterium longum	15707	Growth	24 – 48 hrs
Lactobacillus acidophilus	4356	Growth	24 – 48 hrs
Bacteroides fragilis	25285	Growth	24 hrs
Prevotella melaninogenica	25845	Growth	24 – 48 hrs
Fusobacterium nucleatum	25586	Growth	24 hrs
Clostridium perfringens	13124	Growth	24 hrs
Clostridium difficile	9689	Growth	24 hrs
Escherichia coli	25922	Growth	24 hrs

User Quality Control: The final determination to the extent and quantity of user laboratory quality control must be determined by the end user.

If sterility testing is to be performed on this product, a representative sample of the lot(s) should be incubated anaerobically and aerobically for 48 – 96 hours.

If the nutritive capacity of this media is to be tested for performance, it is recommended that the following ATCC organisms be evaluated for growth.

Organism	ATCC#	Expected Growth
Bacteroides fragilis	25285	24 hrs
Clostridium perfringens	13124	24 hrs
Faecalibacterium prausnitzii	27768	24 – 48 hrs
Escherichia coli	25922	24 hrs

Physical Appearance: YCFAC Broth should appear translucent and light gold in color. The media will turn light pink in color if exposed to oxygen. Precipitation may occur if stored for prolonged periods of time.

References

1. Browne, H. P., Forster, S. C., Anonye, B. O., Kumar, N., Neville, B. A., Stares, M. D., ... & Lawley, T. D. (2016). Culturing of 'unculturable' human microbiota reveals novel taxa and extensive sporulation. *Nature*, *533*(7604), 543-546.

2. Clinical and Laboratory Standards Institute. Principles and Procedures for Detection of Anaerobes in Clinical Specimens; Approved Guideline. (2014). CLSI document M56-A. *Clinical and Laboratory Standards Institute*, 950 West Valley Road, Suite 2500, Wayne, Pennsylvania 19087.

3. Clinical and Laboratory Standards Institute. Quality Control for Commercially Prepared Microbiological Culture Media; Approved Standard- Third Edition. (2004). CLSI document M22-A3. *Clinical and Laboratory Standards Institute*, 940 West Valley Road, Suite 1400, Wayne, Pennsylvania 19087.

4. Duncan, S. H., Hold, G. L., Harmsen, H. J., Stewart, C. S., & Flint, H. J.. 2002. Growth requirements and fermentation products of Fusobacterium prausnitzii, and a proposal to reclassify it as Faecalibacterium prausnitzii gen. nov., comb. nov. *International journal of systematic and evolutionary microbiology*, *52*(6), 2141-2146.

5. Engelkirk, P. G., Duben-Engelkirk, J. and Dowell, V. R. 1992. Principles and Practices of Clinical Anaerobic Bacteriology. *Star Publishing Co.*, Belmont, CA 94002.

6. Jousimeis-Somer, H. R., Summanen, P., Citron, D. M., Baron, E. J., Wexler, H. M. and S. M. Finegold. 2002. Wadsworth – KTL Anaerobic Bacteriology Manual. *Star Publishing Co*., Belmont, CA 94002.

7. Lopez-Siles, M., Khan, T. M., Duncan, S. H., Harmsen, H. J., Garcia-Gil, L. J., & Flint, H. J. (2012). Cultured representatives of two major phylogroups of human colonic Faecalibacterium prausnitzii can utilize pectin, uronic acids, and host-derived substrates for growth. *Applied and environmental microbiology*, *78*(2), 420-428.

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