Product Insert

PEPTONE YEAST EXTRACT BROTH WITH GLUCOSE FA/GLC (PYG FA/GLC)

Products

AS-875 Peptone Yeast Extract Broth with Glucose FA/GLC (PYG FA/GLC) 10 Tubes / pkg

Intended Use

Peptone Yeast Extract Broth with Glucose FA/GLC (PYG FA/GLC) is designed for the determination of glucose fermentation by anaerobic bacteria for identification. PYG FA/GLC is recommended for use in identifying gram-negative bacteria within the MIDI MIS procedures.

Summary

PYG FA/GLC is a non-selective broth medium that was formulated by the VPI group for use in chromatographic analysis of cellular fatty acids within the MIDI MIS system. For short chain fatty acid end products from the fermentation of glucose, appropriate control strains cultured in this medium will show characteristic metabolic products when analyzed using gas chromatography. Both analysis methods are useful in the identification of clinically significant anaerobic bacteria. This media is prepared, dispensed, and packaged under oxygen-free conditions to prevent the formation of oxidized products prior to use.

Formulation*

Bacto Peptone	5.00	g
Pepticase	5.00	g
Yeast Extract	10.00	g
L-Cysteine Hydrochloride (25.0% solution)	2.00	mL
Hemin (0.1% solution)	5.00	mL
Vitamin K_1 (1.0% solution)	0.10	mL
Resazurin (0.025% solution)	4.00	mL
Calcium Chloride	0.008	g
Magnesium Sulfate	0.016	g
Potassium Phosphate Monobasic	0.04	g
Potassium Phosphate Dibasic	0.04	g
Sodium Chloride	0.08	g
Sodium Bicarbonate	0.32	g
Glucose	10.00	g
DI Water	1.00	L

Final pH: 7.1 ± 0.3 at 25° C
Final volume: 10.0 mL ± 1.0 mL

*Approximate formula. Adjusted 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.

Shelf Life: 1 year from date of manufacture.

Procedure

Specimen Collection: Specimens for anaerobic culture should be protected from oxygen during collection, transportation, and processing. Consult appropriate references for detailed instructions concerning collection and transportation of anaerobes.

Methods for Use: Inoculate PYG FA/GLC directly with a pure culture of the organism. Inoculated tubes should be immediately placed into an anaerobic atmosphere and incubated at 35-37ºC for 24 - 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

Uninoculated PY-based broths should show only trace amounts, if any, of volatile and nonvolatile fatty acids when tested with gas liquid chromatography. If used properly, this medium, when cultured with appropriate control strains, will show characteristic metabolic products when analyzed using MIDI MIS system. For interpretation of chromatographic results, consult the MIDI MIS manual.

Limitations

PYG FA/GLC 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 assurance performance testing, for growth and the fermentation of glucose, at Anaerobe Systems. Glucose utilization is determined on the basis of pH with the production of acid. A strong acid will result in a pH of 5.5 or below, weak acid results in a pH of 5.5 – 6.0, and no acid production results in a pH of 6.0 or above.

Organism Tested	ATCC #	Results	Time	Glucose Utilization
Bacteroides fragilis*	25285	Growth	24 hrs	+
Prevotella melaninogenica	25845	Growth	24 – 48 hrs	NT
Bacteroides vulgatus	8482	Growth	24 hrs	NT
Fusobacterium nucleatum	25586	Growth	24 – 48 hrs	NT
Fusobacterium necrophorum	25286	Growth	24 – 48 hrs	-
Clostridium perfringens	13124	Growth	24 hrs	NT
Peptostreptococcus anaerobius	27337	Growth	24 hrs	NT
Peptoniphilus asaccharolyticus	29743	Growth	24 – 48 hrs	-
Propionibacterium acnes	6919	Growth	24 – 48 hrs	+
Staphylococcus aureus	25923	Growth	24 hrs	NT
Clostridium novyi	7659	Growth	48 hrs	NT

*This organism is tested for characteristic fatty acid results using the MIDI MIS system. NT = Not Tested

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. Glucose utilization is determined by pH analysis.

Organism	ATCC #	Expected Growth	Glucose Utilization
B. fragilis	25285	24 hrs	+
P. asaccharolyticus	29743	48 hrs	-
P. acnes	6919	48 hrs	+
F. necrophorum	25286	48 hrs	-

Physical Appearance: PYG FA/GLC should appear as a clear, golden-yellow liquid.

References

1. Dowell, V. R., Jr., G. L. Lombard, F. S. Thompson and A. Y. Armfield. 1977. *Media for the Isolation, Characterization and Identification of Obligately Anaerobic Bacteria.* USDHHS, CDC. Atlanta, GA 30333.

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

3. Holdeman, L. V., F. P. Cato and W. E. C. Moore. 1987. *Anaerobe Laboratory Manual*. Virginia Polytechnic Institute and State University. Blacksburg, VA 24061

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

5. CLSI. *Quality Control for Commercially Prepared Microbiological Culture Media; Approved Standard- Third Edition.* (2004). CLSI document M22-A3. CLSI, 940 West Valley Road, Suite 1400, Wayne, PA 19087-1898.

6. Sherlock Microbial Identification System (MIS). Operating Manual, Version 6. MIDI, Inc. Newark, DE 19713.

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