

## Product Insert

### BIFIDOBACTERIUM SELECTIVE AGAR (BIFIDO)

#### Products

AS-6423 Bifidobacterium Selective Agar (BIFIDO) 4 plates / pkg

#### Intended Use

Bifidobacterium Selective Agar (BIFIDO) is a selective media for the isolation and enumeration of *Bifidobacterium* species.

#### Summary

BIFIDO agar contains a reinforced clostridial agar formulation as the basal nutritive media. Selective and differential compounds include iodoacetic acid and 2, 3, 5-triphenyltetrazolium chloride (TTC). Iodoacetate inhibits glyceraldehyde-3-phosphate dehydrogenase, drastically reducing the growth of non-bifidobacterial colonies. TTC makes it possible to differentiate between other species and *Bifidobacterium*, since the bifidobacterial develop in large white colonies. This media is prepared, dispensed, and packaged under oxygen-free conditions to prevent the formation of oxidized products prior to use.

#### Formulation\*

Pancreatic Digest of Casein	10.00	g
Beef Extract	10.00	g
Yeast Extract	3.00	g
Sodium Chloride	5.00	g
Dextrose	5.00	g
Agar	15.00	g
Soluble Starch	1.00	g
Sodium Acetate	3.00	g
L-Cysteine Hydrochloride (25.0% solution)	2.00	mL
Nalidixic Acid	0.02	g
Polymyxin B	0.0085	g
Kanamycin	0.05	g
Iodoacetic Acid	0.025	g
2,3,5-triphenyltetrazolium Chloride	0.025	g
DI Water	1.00	L

Final pH: 7.1 ± 0.2 at 25° C

Final weight: 16.0 g ± 1.6 g

\*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 (shrinking, cracking, or 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:** 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:** BIFIDO agar should be inoculated directly with clinical specimen or from a broth that has been inoculated with a clinical specimen. Streak plates with inoculum to obtain isolated colonies and immediately place into an anaerobic atmosphere, incubating at 35-37°C for 18-48 hours. Extended periods of incubation may be required to recover some anaerobes. Extended incubation time may also result in loss of selectivity of the media which can result in the overgrowth of organisms that should be inhibited. 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

This media supports good growth of some of the *Bifidobacterium* spp. found in clinical infections.

## Limitations

BIFIDO will not provide complete information for identification of bacterial isolates. Additional test procedures and media are required for complete identification. It is recommended that a non-selective media, such as Brucella Blood Agar (BRU, catalog #: AS-111) also be inoculated from the same clinical specimen to assure recovery of all species present. 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
<i>Bacteroides fragilis</i>	25285	Growth	24 – 48 hrs
<i>Fusobacterium nucleatum</i>	25586	No Growth	
<i>Clostridium perfringens</i>	13124	Inhibited	
<i>Peptostreptococcus anaerobius</i>	27337	Variable	
<i>Proteus mirabilis</i>	12453	Inhibited	
<i>Staphylococcus aureus</i>	25923	Variable	
<i>Escherichia coli</i>	25922	No Growth	
<i>Bifidobacterium longum</i>	15707	Growth	48 – 72 hrs
<i>Bifidobacterium bifidum</i>	15696	Growth	48 – 72 hrs
<i>Bifidobacterium adolescentis</i>	15703	Growth	48 – 72 hrs
<i>Bifidobacterium breve</i>	15700	Variable	48 – 72 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/inhibitory capacity of this media is to be tested for performance, it is recommended that the following ATCC organisms be evaluated for growth/inhibition.

Organism	ATCC #	Expected Growth
B. longum	15707	48 - 72 hrs
B. bifidum	15696	48 - 72 hrs
B. adolescentis	15703	48 - 72 hrs
F. nucleatum	25586	No Growth
E. coli	25922	No Growth
C. perfringens	13124	Inhibited

**Physical Appearance:** BIFIDO should appear opaque to translucent yellow/pink in color.

## 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. Munoa, F. J. and Pares, P. 1988. Selective Medium for Isolation and Enumeration of *Bifidobacterium* spp. *Applied and Environmental Microbiology* 54: 1715-1718.

Revision Date: 10/16/17