

Bifidobacterium Agar

Intended Use

Bifidobacterium Agar is used for the cultivation and maintenance of *Bifidobacterium* species.

Summary

Bifidobacterium species are gram-positive, anaerobic, branched or pleomorphic rods that can be isolated from a variety of materials such as human and animal feces, sewage and from the oral cavity. Their main habitat in humans is the large intestine where they are among the major groups of normal intestinal bacteria. It is the third largest among bacterial populations found in the human intestine after *Bacteroides* and *Eubacterium*. It resides in the colon and provides health benefits for their hosts. *Bifidobacteria* are also associated with lower incidences of allergies.

Several media have been devised for the elective or selective isolation of *Bifidobacteria*. Since the genus consists of more than 25 known species with a considerable heterogeneity in resistance to antimicrobial agents and other inhibitors, it is difficult to design a single medium with a good selectivity while maintaining a good recovery. Bifidobacterium Agar is used for the cultivation and maintenance of *Bifidobacterium* species. It allows good recovery of *Bifidobacterium* species present in the human intestinal tract.

Principle

Special peptone provides essential growth nutrients. Starch acts as protective colloid and shields organisms from harmful substances present in the medium. Glucose is the energy source and sodium chloride maintain isotonic conditions. L-Cysteine hydrochloride helps in creating reduced conditions required for the growth of *Bifidobacteria*.

Formula*

Ingredients	g/L
Special Peptone	23.0
Sodium Chloride	5.0
Glucose	5.0
Starch, Soluble	1.0
L-Cysteine Hydrochloride	0.3
Agar	15.0
Final pH (at 25°C)	6.8 ± 0.2

*Adjusted to suit performance parameters

Storage and Stability

Store dehydrated medium below 30°C in tightly closed container and the prepared medium at 2°C-8°C. Avoid freezing and overheating. Use before expiry date on the label. Once opened keep powdered medium closed to avoid hydration.

Type of specimen

Clinical samples – faeces

Specimen Collection and Handling

Ensure that all samples are properly labelled.

Follow appropriate techniques for handling samples as per established guidelines.

Some samples may require special handling, such as immediate refrigeration or protection from light, follow the standard procedure.

The samples must be stored and tested within the permissible time duration.

After use, contaminated materials must be sterilized by autoclaving before discarding.

Directions

1. Suspend 49.30 g of the powder in 1000 mL purified / distilled water.
2. Mix well and heat to boiling to dissolve the powder completely.
3. Sterilize by autoclaving at 121°C (15 psi) for 15 minutes as per validated cycle.
4. Mix well and pour into sterile petridishes.

Quality Control

Dehydrated Appearance: Cream to yellow coloured, homogenous, free flowing powder.

Prepared Appearance: Amber coloured clear to slightly opalescent gel forms in petridishes.

Cultural Response: Cultural characteristics observed after an incubation of 24-48 hours at 35°C-37°C.

Organism (ATCC)	Growth
<i>Bifidobacterium bifidum</i> (15696)	Good
<i>Bifidobacterium breve</i> (15698)	Good
<i>Bifidobacterium infantis</i> (25962)	Good

Interpretation of Results

1. After the incubation, inspect plates for growth.
2. Appropriate colonies must be tested microscopically (Gram staining) for the presence of typical bifid, gram positive rods. Colonies may then be counted, and the number of colonies multiplied by the dilution factor of the sample to obtain the CFU per gram feces.
3. Subcultures and biochemical tests must be performed for a final identification of the organisms isolated. In the feces of healthy individuals, *Bifidobacteria* shall be present in high counts while their absence or low counts may be a hint for intestinal disorder.
4. Reduced occurrence of *Bifidobacteria* in normal flora does not imply treatment of patients with antimicrobial agents or medications other than probiotics unless specific infectious agents have been detected as the cause of the disorder.

Performance and Evaluation

Performance of the product is dependent on following parameters as per product label claim:

1. Directions
2. Storage
3. Expiry

Warranty

This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

Reference

1. Björkstén B., Sepp E., Julge K., Voor T., and Mikelsaar M., 2001, J. Allergy Clin. Microbiol., Volume 108, Issue 4, 516-520.
2. Guarner F., and Malagelada J. R., 2003, The Lancet, Vol. 361, Issue 9356, 8 February 2003, 512-519.
3. Atlas R. M. 2004, 3rd Edi. Handbook of Microbiological Media, Parks, L. C. (Ed.), CRC Press, Boca Raton.
4. Data on file: Microexpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	Product description	Pack Size
201020110500	Dehydrated Culture Media	500 g
203020540001	Ready Prepared Kit	1 Kit

Disclaimer

Information provided is based on our inhouse technical data on file, it is recommended that user should validate at his end for suitable use of the product.
