MICROBANK™ ACCESSORIES

Freezer storage boxes are available which are suitable for collection and organization in low temperature freezers. Available in blue and red, each freezer box will hold 81 Microbank™ vials. Also available is the Cryoblock for maintaining low temperatures while working with Microbank™ vials on the laboratory bench.

Products	Code	Size
Freezer Storage Box - Blue	PL.169/B-1	Each
Freezer Storage Box - Red	PL.169/R-1	Each
Freezer Storage Box - Blue	PL.169/B-4	4 Pack
Freezer Storage Box - Red	PL.169/R-4	4 Pack
Cryoblock	PL.155-1	20 Well
Insulated Base & Lid	PL.156	2 Pack
Laminated Log Book	PL.165	12 Charts
Aluminium Cryocanes	PL.166	12 Canes
Microbank™ - 2D Barcode Reader	PL.168	Each

bio TRADING BENELUX B.V.

Microbank™

Advanced Bacterial Storage System

Now Available With 2D Barcodes

Microbank™ Bacterial & Fungal Preservation System

Microbank™, the original system for the long term storage and retrieval of bacterial and fungal cultures now enjoys over 25 Years of successful storage and referenced performance, with over 35 million vials manufactured and supplied worldwide.

In addition to its now infamous presentation, Microbank™ has been enjoying success in North America with a new 2D datamatrix GS1 compliant barcoded version. Now established for some time, we are pleased to advise the arrival of the new feature in Europe.

The concept is simple, the unique barcode is incorporated into the vial label area, leaving ample space for additional labelling, and on the storage box.

To enhance your experience with the 2D barcodes, we are also pleased to offer the following: your own Penguin Barcode Reader, Data Storage Device, and a personalised Microbank™ Assets Web Database providing the full package of everything you need to get started and to ensure easy location of any stored culture with instant access to its source history. You can bet there will be another “Mug” in the series out very soon as well to add to your collection.

Microbank™ is the original system manufactured exclusively by Pro-Lab Diagnostics for over 28 Years. Only Microbank™ guarantees up to 25 years of successful storage, data is available in the Microbank™ Worldwide Performance Portfolio making it the choice for laboratories worldwide and beyond. Yes, beyond: we have a bacterial collection in outer space developed specifically for a rather well known organisation!

The long term storage of microorganisms is a significant challenge in microbiology. Microbank™ with unique 2D barcodes offers a platform that utilises porous glass beads and a specially formulated cryopreservative for storage at low temperatures. The additional feature of a unique 2D barcode on each box and each vial facilitates easier documentation and retrieval of your isolates. This format coupled with the Microbank™ Cryoblock offers the least possibility of disturbance to your organism, yet permits ready and rapid access.

Each Microbank™ vial contains approximately 25 sterile coloured beads (single colour) and the specially formulated cryopreservative unique to Microbank™, allowing storage at from -20°C to -70°C. The specially treated beads are of a porous nature allowing microorganisms to readily adhere onto the bead surface. After inoculation the Microbank™ vials are kept frozen for extended storage. When a fresh culture is required, a single bead is easily removed from the Microbank™ vial and used to directly inoculate a suitable culture medium.

The unique 2D barcodes on the box and vials provide you with a freezer safe, durable label that can be scanned into your Laboratory Information System or Assets Web Database with ease. This feature not only removes the risk of transcription errors but has the added advantage of making retrieval from the freezer a simple task.

Product availability

MICROBANK™

Advanced presentation of 80 vials supplied in a plastic freezer box manufactured from durable plastic with "see through" lids, number locator printed screens, and tube collection device.

Products	Code	Size
Microbank™ (with 2D barcode) - Blue	PL170C/B	80 Vials
Microbank™ (with 2D barcode) - Green	PL170C/G	80 Vials
Microbank™ (with 2D barcode) - Red	PL170C/R	80 Vials
Microbank™ (with 2D barcode) - Yellow	PL170C/Y	80 Vials
Microbank™ (with 2D barcode) - Light Blue	PL170C/LB	80 Vials
Microbank™ (with 2D barcode) - Mixed (16 x each colour)	PL170C/M	80 Vials

MICROBANK™ DRY

Supplied in the same format as traditional Microbank™ without the special cryopreservation solution.

Products	Code	Size
Microbank™ - Blue	PL172B	80 Vials
Microbank™ - Green	PL172G	80 Vials
Microbank™ - Red	PL172R	80 Vials
Microbank™ - Yellow	PL172Y	80 Vials
Microbank™ - Light Blue	PL172LB	80 Vials
Microbank™ - Mixed (16 x each colour)	PL172M	80 Vials

MICROBANK™ SPECIAL PRESERVATION ONLY

Supplied in the same format as traditional Microbank™ but without the beads.

Products	Code	Size
Microbank™ - Blue	PL173B	80 Vials
Microbank™ - Green	PL173G	80 Vials
Microbank™ - Red	PL173R	80 Vials
Microbank™ - Yellow	PL173Y	80 Vials
Microbank™ - Light Blue	PL173LB	80 Vials
Microbank™ - Mixed (16 x each colour)	PL173M	80 Vials

Unrivalled Performance

Microbank™ now enjoys over 25 Years of successful storage and referenced performance, with over 35 million vials manufactured and supplied worldwide.

Edition 4 of **The Microbank™ World Wide Performance Portfolio** is now available and contains a comprehensive collection of long term storage trials, publications, papers, and text book references that have contributed significantly to the success and reputation of the Microbank™ system over the years.

There are of course many other papers and references for Microbank™ and we are happy to include any of these in future publications of the Portfolio upon request. We are extremely grateful to all who have contributed to the success and reputation of the Microbank™ system and the Performance Portfolio.

Example references are….

A continual performance study by Brazier and Hall at the PHLS Reference Centre (U.K.) currently demonstrates 10 years of successful storage and retrieval of 100 anaerobes in the Microbank™ system.

Moyes and Young, U.K. Gonococcal Reference Laboratory, achieved excellent recovery using Microbank™ (98.6%) with GC isolates after 12 months.

Williams N.J. and others. Department of Epidemiology and Population Health, Institute for Infection and Global Health, Leahurst Cam-pus, Neston, U.K. Long term storage of multiple large research led culture collections of zoonotic enteric pathogens and commensal bacteria.

Bestbion DX. Cologne, Germany. A summary of successful storage data collected from 24 Microbiology laboratories in Germany for successful storage of microorganisms using Microbank™.

McLaren and Bell, VLA Salmonella Reference Laboratory (U.K.), currently holds data for the successful storage and retrieval of 312 iso-lates of Salmonella using Microbank™ since 1992.

Professor Valerie Edwards Jones. Manchester Metropolitan University (U.K.). Storage of NCTC strains at -20°C using Microbank™

D. Chandler. Horticultural Research International, Wellesbourne, Warwick, U.K. Cryopreservation of fungal spores using Microbank™.

The following text books reference the Microbank™ Storage system as a recommended method:

1. Bailey & Scott's Diagnostic Microbiology, by P. Tille. ISBN:9780323083300.
2. Laboratory Methods in Food Microbiology by W. F. Harrigan. ISBN: 9780123260437
3. Fungal Plant Pathogens - Principles and Protocols Series by C. Lane, P. Beales, K. Hughes. ISBN: 9781845936686
4. Probiotics in Food Safety and Human Health by I. Goktepe, V. K. Juneja, M. Ahmedna. ISBN: 9781574445145
5. Cryopreservation and Freeze-Drying Protocols by J. G. Day, M. R. McLellan.ISBN: 9780896032965
6. Manual of Techniques in Invertebrate Pathology by L. A. Lacey. ISBN: 9780123868992
7. Bergey's Manual of Systematic Bacteriology by W. Whitman, A. Parte, M. Goodfellow, P. Kämpfer, H-J. Busse, M. E. Trujillo, W. Ludwig, K.I. Suzuki. ISBN: 9780387950433
8. Manual of Clinical Microbiology by J. Versalovic. ISBN: 9781555814632

HISTORICAL PRESERVATION REFERENCES:

1. White and Sand, R.L. 1985. Medical Laboratory Sciences 42:289-290 (U.K.)
2. Feltham et al. 1978. Journal of Applied Bacteriology. 44:313-316.
3. Nagel, J.G. & Cunz, L.J. 1971. Applied Microbiology. 23(4):837-838

Large 2 ml vials
with triple depth external threaded tube which reduces the possibility of contamination. Wider tube diameter provides more room for mixing to ensure beads are properly coated.

Larger writing area
allows for complete coding and reference data.

Industry-standard
robust cryovial can withstand snap freezing with liquid nitrogen.

Available in five colours
to provide laboratories with a system to colour code different bacterial and fungal species.

2D Datamatrix GS1 compliant Barcode

Specially formulated preservative
ensures longer survival of fastidious bacteria and higher quantitative recoveries.

Chemically treated beads
improve bacterial adhesion.

- Proven performance with up to 25 years of published storage data internationally.
- References available for storage at -20°C to -70°C.
- Unique cryopreservation solution suitable for aerobic, anaerobic and fastidious bacteria, and fungal cultures.
- Unique treated beads to enhance bacterial adhesion.
- Available in five standard colours.
- Standard pack of 80 supplied in durable storage box.
- Custom pack sizes available for large collections.
- Multiple colour coding option available (120 available).
- Industry standard cryovials with large writing area and triple depth external threaded tube which reduces the possibility of contamination and improves handling.
- **Trust in an original, it has to be Microbank™**

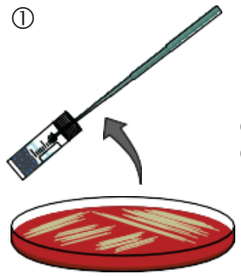
Microbank™ Preservation & Retrieval Procedure

Scan the 2D barcode on the Microbank™ box and record any relevant information in your freezer storage program

Scan the 2D barcode on the Microbank™ vial and record relevant information for the organism to be stored.

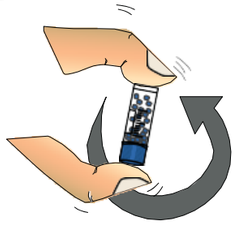
Alternatively, label the vial.

①



Inoculate the cryopreservative with colonial growth (18-24 hrs).

②



Close the Microbank™ vial tightly and invert 4-5 times. Do not vortex.

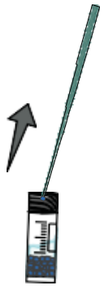
③

Remove the specially formulated cryopreservative using a sterile pipette.

④

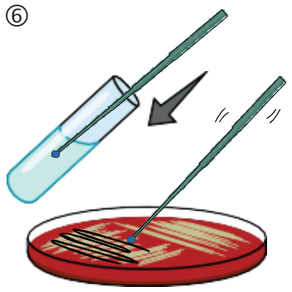
Store the inoculated Microbank™ vial in appropriate freezer or liquid nitrogen.

⑤



Scan the 2D barcode on the Microbank™ vial to ensure the correct isolate is being retrieved. Recover inoculated Microbank™ beads using aseptic technique.

⑥



The bead may then be streaked directly onto a solid medium or inoculated into an appropriate liquid medium. Incubate as required.

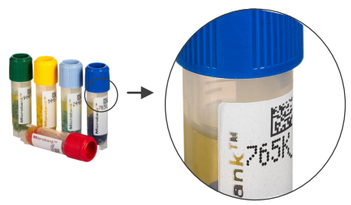
Microbank™ Presentation

Microbank™ is available in five colour coded styles, offering microbiologists the flexibility to colour code different species or strains of bacteria and fungi.

Microbank™ is available in standard presentation of 80 vials in a freezer box manufactured from durable plastic with transparent lid, number locator printed screen and tube collection device.

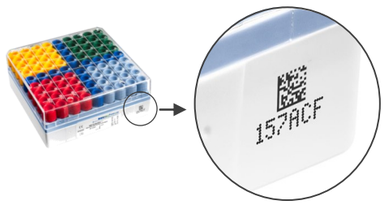
2D Explained

Pairing the unique 2D Datamatrix barcode on the storage box to the vials supplied will allow for better traceability of cultures as you build your database. 2D barcodes use patterns of squares, hexagons, dots, and other shapes to encode data. Because of this structure, 2D barcodes can hold data up to 2000 characters, and are very small. The data is encoded based on both the vertical and horizontal arrangement of the pattern, and is read in two dimensions.



A 2D barcode doesn't just encode alphanumeric information. These codes can also contain images, website addresses, voice, and other types of binary data. That means you can make use of the information whether you are connected to a database or not. A large amount of information can travel with an item labeled with a 2D barcode. Scanners can read them from over 3 feet away and are available in the common "gun" style, as well as cordless, countertop, and mounted styles.

Linear or 1D barcodes, like the UPC code commonly found on consumer goods, use a series of variable-width lines and spaces to encode, whilst acceptable in many applications they hold just a few dozen characters, and generally get physically longer as more data is added, use can be typically limited to 8-15 characters, causing problems on small labels where additional data may also be required.



2D barcodes have increasingly been used in supply chain and manufacturing applications with medical equipment and diagnostic industries, where companies have been tasked with providing a large amount of product tracking information on some very small items. For example, the U.S. FDA's UDI rules require several pieces of manufacturing information to be included on certain types of medical devices. That data could be easily encoded on very small 2D barcodes.

"The type of barcode selected requires careful consideration and is dependent on quality, ease of use, and the specific requirements of the application, including the type and amount of data that is required to be, the size of the asset/item, and how and where the code will be scanned."
"The adoption of the 2D Datamatrix GS1 Compliant Barcode on the Microbank™ vial offers the most efficient system available."

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