



Unit 18, 5100 South Service Road
Burlington, Ont. Canada L7L 6A5
Tel: (905) 333-8188
Fax: (905) 333-0500
Toll Free: 1-800-363-7907

BactoBank Microorganism Preservation System

INTENDED USE

The Pulse BactoBank is a system intended for the long-term storage of microorganisms at low temperature using ceramic beads.

SUMMARY & PRINCIPLES

The maintenance of quality control or clinical cultures for long term storage is a routine practice by hospitals. They usually employ home-made preservation systems. However, the availability of commercial systems for the preservation of microorganisms has revolutionized this hospital practice and has reduced workload substantially.

BactoBank contains a plastic vial with ceramic beads suspended in a cryogenic fluid. Upon inoculation into the cryogenic fluid, the microorganisms will adhere to the surface of the bead. In this manner, the microorganisms will maintain long term survival when the coated beads are stored at refrigerated temperatures¹.

BactoBank is available in several colour beads to allow the laboratory to identify different categories of microorganisms. The compact vial size allows the storage of a large quantity of cultures using a minimum space². Each individual bead can be removed from the vial without thawing the entire vial sample. The bead system permits the microorganism to be reactivated and be transferred onto a plated media or tube media for recovery. This method has been proven to be a simple, rapid, safe and reliable procedure to be routinely used to preserve quality control cultures or cultures for other applications for long term storage³.

MATERIALS SUPPLIED

Vials: Each vial contains ceramic beads suspended in a cryogenic fluid.

Additional Items Required:

Pure Culture to be preserved. Sterile loops. Sterile pipet tips. Sterile hooks or needles. Freezer at -20 degree C or below. Biohazard Waste Bag.

STORAGE

Unopened BactoBank Vials can be stored at room temperature or in the refrigerator. Exposure to bright light should be avoided.

PRECAUTIONS

This product is for use by trained Laboratory Technicians for the long-term preservation of microorganisms. The product should be checked visually for turbidity, a sign of possible contamination. If turbidity is observed, DO NOT USE product and discard into a waste bag for sterilization. The product should also be examined to ensure that the cryogenic fluid is present before use.

SPECIMEN COLLECTION

A fresh 18 hours pure culture grown on a plated media should be used.

INOCULATION PROCEDURE

1. The unopened vial should be labeled with the pertinent information before use. Remove vial cap.
2. Harvest colonies from the plated media with a sterile loop and aseptic technique.
3. Mix the harvested colonies with the ceramic beads inside the BactoBank.
4. The resulting mixture should create a turbid suspension. The turbidity should be equivalent to a MacFarland 3 standard.
5. Replace cap and invert the capped vial in an up and down motion 3 to 5 times. Let it stand briefly for 10 seconds.
6. Remove most of the cryogenic fluid using a sterile pipet tip and discard into waste bag. Close vial cap and store at a freezer that can maintain temperature between - 20 and - 80 degree C.

RECOVERY PROCEDURE

1. Remove the BactoBank vial from the storage freezer. If several vials are to be processed, a suitable metal block (at -20 degree C) is recommended to avoid thawing of the specimen.
2. Open vial cap. With a sterile hook or a sterile needle (both items available separately from Pulse Scientific), retrieve a single ceramic bead.
3. In a rotational motion, roll the ceramic bead onto a plated media surface. This action will dislodge the microorganisms from the bead surface onto the media surface. Alternatively, the bead can be dropped into a broth medium.
4. Incubate the broth or plate media under suitable growing conditions.
5. Discard the beads into a waste bag.
6. Return BactoBank to the freezer promptly.

REFERENCES

1. Morton, C. Culture media quality control - a new approach. Poster Sessions at Institute of Medical Laboratory Sciences Triennial Conference, Sept. 1989.
2. White, D.J. and Sands, R.L., Storage of Bacteria at -76 degree C. Medical Laboratory Sciences, 42, 289-290, 1985.
3. Feltham, R.K.A., Power, A.K., Pell, P.A. and Sneath, P.H.A., A Simple Method for Storage of Bacteria at -76 degree C. J. appl. bacteriol., 44, 313-316, 1978.

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Pulse Scientific Inc.
Burlington, Ontario, Canada