Table of Contents

1.0 Purpose

This Standard Operating Procedure (SOP) describes how to deposit, withdraw, and document Current Good Manufacturing Practices (CGMP) mammalian, bacterial, and viral bank materials stored by the Biopharmaceutical Development Program (BDP) in controlled-access freezers.

2.0 Scope

This procedure applies to BDP personnel using CGMP bank materials.

3.0 Authority and Responsibility

3.1 The repository staff or MMIC staff is responsible for the transfer of inventoried samples to and from dedicated freezers containing BDP samples.

3.2 BDP staff is responsible for delivery of banks to Materials Management and Inventory Control (MMIC) or other repositories that are being used to store BDP samples for storage and subsequent withdrawal. For MMIC controlled-rate freezing reference ***SOP 12208 - Operation of the Thermo 7450 Controlled Rate Freezer***.

3.3 MMIC staff is responsible for inventory management of mammalian, bacterial and viral bank materials stored in MMIC and CGMP repository contractors commissioned by the BDP.

3.4 Biopharmaceutical Quality Assurance (BQA) is responsible for quality oversight of this procedure.

4.0 Storage Facilities

4.1 Mammalian, bacterial, and viral banks must be stored in separate freezers dedicated solely to that type of material. Quarantined and released materials of the same category (mammalian, bacterial, or viral) may be stored in the same freezer as long as they are physically segregated (refer to ***SOP 13200 - Qualification of Cells and CGMP Cell Banks***). It is preferable to store banks in vapor phase liquid nitrogen when possible; however, the Project Scientists should be consulted for product specific requirements. The following classifications of materials are segregated from one another (refer to ***SOP 13215 - The GMP Banking Process***).

4.1.1 CGMP Mammalian Cell Banks – Quarantine

4.1.2 CGMP Mammalian Cell Banks – Released

4.1.3 CGMP Bacterial Cell Banks – Quarantine

4.1.4 CGMP Bacterial Cell Banks – Released

4.1.5 CGMP Viral Banks – Quarantine

4.1.6 CGMP Viral Banks – Released

4.2 Only BDP GMP cell banks will be stored in the BDP liquid nitrogen freezer located in the ATRF [redacted], and the BDP GMP liquid nitrogen freezer at off-site contract storage facilities. R&D materials and banks must not be stored in liquid nitrogen freezers used for GMP banks.

4.3 BDP cell and virus banks used for GMP manufacturing cannot be stored in general use liquid nitrogen freezers at any repository. They must be stored in BDP dedicated liquid nitrogen freezers maintained by the repository or BDP MMIC

4.4 Liquid nitrogen freezers that are controlled by a contractor (contractor owned freezers) can be accessed only by contractor personnel or emergency personnel designated for emergency response.

5.0 Procedure for Depositing Samples

5.1 CGMP bank vials that are deposited in the NCI Central Repository, are governed by ***SOP 21707 - Deposit/Withdrawal of Product and Samples in the NCI-Frederick Repository***.

5.2 CGMP bank vials are deposited in BDP contracting off-site storage locations through the BDP MMIC, per the vendor-specific procedure. Forms for storage of banks at off-site locations are obtained from each specific contractor on an as-needed basis to ensure that the current revision of the form is being used.

5.3 CGMP bank vials, while in quarantine status, are deposited in the BDP liquid nitrogen freezer located at the ATRF [redacted] or the freezers belonging to the BDP at contracted repositories. Personnel must complete Form 20303-01 per ***SOP 20303 - CGMP Product Accountability*** and submit the form to MMIC for MMIC freezers. From this point forward, MMIC assumes responsibility for control and inventory of the material per ***SOP 20303 - CGMP Product Accountability***. However, the Supervisor of the area from which the material was submitted, and the Project Scientist will be kept apprised of all withdrawals.

6.0 Material Status Change

6.1 When material is released by Quality Assurance (status changes from Quarantine to Released), the Project Scientist (or designee) in conjunction with MMIC staff will arrange to transfer the material from the Quarantine storage area to the associated Released storage area if required. MMIC will arrange the transfer of **one half** of the final count of vials to an approved alternate storage facility. This is required to prevent catastrophic loss of entire cell banks. The Project Scientist or designee will follow all shipment procedures outlined in ***SOP 20201 - Distribution of Products and Materials to Requestors and Subcontractors.***

6.2 If material is rejected, it will remain in the Quarantine freezer until appropriate arrangements can be made to dispose of the material (refer to ***SOP 13215 - The GMP Banking Process*** and/or **SOP 21906 -** ***Destruction of BDP-Produced Materials***).

7.0 Procedure for Withdrawing Samples

7.1 To obtain material stored in the NCI Central Repository, request a withdrawal per ***SOP 21707 - Deposit/Withdrawal of Product and Samples in the NCI-Frederick Repository***.

7.2 For withdrawal of material stored at the ATRF [redacted] or an off-site storage location, complete Form 20303-02, Inventory Withdrawal Request, as per ***SOP 20303 - CGMP Product Accountability***, and submit the form to MMIC.

7.2.1 MMIC will request approval/consent from the Project Scientist. This approval will consist of either a signature on Form 20303-02, or an e-mail which specifies the material in question can be withdrawn. A copy of the e-mail will be appended to the form.

7.2.2 MMIC will request written approval from the BDP Safety Officer for all withdrawal requests for viral material (or any other material that is considered hazardous). This approval will consist of either a signature on Form 20302-02 or an e-mail which specifies the material in question can be withdrawn. A copy of the e-mail will be appended to the form.

7.2.3 Upon receipt of all required approvals, MMIC will make the appropriate arrangements for delivery with the storage facility from which the material is to be withdrawn.

7.2.4 MMIC staff will submit the request form to the storage facility with a cover sheet noting when the sample(s) will be retrieved and how the cold chain will be maintained, e.g., transport on LN_2 or dry ice. Dry ice should not be used for transporting virus banks in plastic cryovials unless the vials are totally isolated and sealed in secondary containment from the CO_2. Some viruses are sensitive to CO_2 and the CO_2 may cause a drop in titer. Virus banks and products in glass vials may be shipped on dry ice.

NOTE: The vials being transported must not be allowed to thaw or rise above -70°C at any time.

7.2.5 Prior to sample pickup, MMIC staff will arrange a delivery time for the material directly to the end-user and the recipient will be required to sign that he/she received the material. Copies of any BDP paperwork can be provided upon request.

7.2.6 MMIC staff will enter the transaction on CGMP Product Accountability sheets and in the appropriate database.

7.3 If samples are being withdrawn for submission to Process Analytics/Quality Control (e.g., after a controlled-rate freeze of a master cell bank), withdraw the samples and submit to Process Analytics for testing per ***SOP 22002 - Request for Quality Control Testing***.

7.4 If product is being withdrawn for shipment to non-BDP recipients, follow the procedure and approvals listed in ***SOP 20201 – Distribution of Products and Materials to Requestors and Subcontractors***.

8.0 Documentation

8.1 Make copies of the completed forms and keep as a record. Copies of the withdrawal forms may be required in Master Production Records.

8.2 Printouts of the current inventory of samples and inventory activity are available on request from each storage facility.

8.3 Project Scientists may request an updated inventory listing at any time from BDP Business Operations.

9.0 References and Related Documents

- **SOP 12208** *Operation of the Thermo 7450 Controlled Rate Freezer*
- **SOP 13200** *Qualification of Cells and CGMP Cell Banks*
- **SOP 13215** *The GMP Banking Process*
- **SOP 20201** *Distribution of Products and Materials to Requestors and Subcontractors*
- **SOP 20303** *CGMP Product Accountability*
- **SOP 21707** *Deposit/Withdrawal of Product and Samples in the NCI-Frederick Repository*
- **SOP 21906** *Destruction of BDP-Produced Materials*
- **SOP 22002** *Request for Quality Control Testing*

10.0 Change Summary

[redacted]