Integrated Islet Distribution Program
City of Hope

STANDARD OPERATING PROCEDURE (SOP)

Acquisition and Uploading of Digital Image of Count Sample for Broadcast

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1.0 Objective

1.1 To define the acquisition and uploading of digital image of count sample for broadcast for use in the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) sponsored research in the Integrated Islet Distribution Program (IIDP).

2.0 Scope and Applicability

2.1 This SOP applies to all IIDP islet distribution centers using funds from the NIDDK to manufacture purified human pancreatic islets for basic research studies for IIDP approved investigators.

3.0 Responsibilities

3.1 It is the responsibility of each IIDP center to follow the procedures listed in this SOP and to work to the best of their abilities to follow all requirements.

3.2 Managers and supervisors are responsible for assuring that all technicians are properly trained in the correct procedure for this SOP and that equipment and facilities are in good working order.

3.3 Laboratory personnel are responsible for reading and understanding the SOP and for performing the tasks in accordance with this SOP.

3.4 It is the responsibility of the IIDP CC to ensure adherence to the procedures outlined in this SOP. In order to accomplish this, the IIDP CC will interact with the relevant personnel from each of the participating centers.

4.0 Definitions

4.1 Integrated Islet Distribution Program (IIDP): The IIDP is a contracted program commissioned and funded by the NIDDK to provide quality human islets to the diabetes research community to advance scientific discoveries and translational medicine. The IIDP consists of the NIDDK Project Scientist and Program Official, the External Evaluation Committee and the CC at City of Hope (COH). The IIDP CC integrates an interactive group of academic laboratories including the subcontracted IIDP centers.
4.2 IIDP Coordinating Center (CC): Joyce Niland, Ph.D. is the Principal Investigator for the IIDP CC and leads staff from the Department of Information Sciences at COH to coordinate the activities of the IIDP and assist the participating centers and investigators in the distribution of human islets.

5.0 Materials

5.1 The following equipment and supplies are necessary to acquire and upload count sample for broadcast:

5.1.1 Sterile counting petri dish (Corning® 60mm with 2mm Grid TC-Treated Culture Dish - Cat# CLS430196)
5.1.2 Dithizone stained islet counting sample for broadcast
5.1.3 Microscope for counting with low and high magnification
5.1.4 Digital camera that can attach to microscope
5.1.5 Software to transfer image from camera to computer
5.1.6 Computer for uploading image to IIDP website

6.0 Procedures

6.1 Assemble all items described in 5.0-Materials

6.2 Samples should be taken following steps below:

6.2.1 When islet count for broadcast is completed, center the islets in your count sample by gently swirling the counting dish until islets are centered.
6.2.2 Adjust objective for low magnification.

6.2.2.1 Note: Due to the differences in microscopes and cameras at IIDP Centers, use a low power magnification in order to assess an overall impression of the preparation containing >30 islets. Each Center should establish center standards based on individual microscope and camera specifications in their laboratory.

6.2.3 Switch microscope optics from objectives to camera.
6.2.4 Turn on camera and refocus image until the islets in field are clear and focused.
6.2.5 Take picture of low magnification field of islets and save in designated folder for broadcast name, date and low mag. broadcast image.
6.2.6 Change objective to a higher magnification.

6.2.6.1 Due to the differences in microscopes and cameras at IIDP Centers, use a higher power of magnification that will show a more detailed image of the quality and sizing of 10-20 islets where the counting dish grid is visible for comparison to the Reference Image on the website. Each Center should
establish center standards based on individual microscope and camera specifications in their laboratory.

6.2.7 Refocus on representative islets.
6.2.8 Take picture of high magnification field of islets and save in designated folder for broadcast name, date and high mag. broadcast image.

6.3 Upload digital photographs to IIDP website in Islet Processing Data Form as part of the broadcast.

7.0 References

7.1 UIC Cell Isolation Program SOP 3/010-016-01 – Islet Picture Acquisition and Filing

8.0 Attachments

8.1 None