Title: Xcell *SureLock* Mini-Cell Gel Box SOP

Approvals:
Reviewer: __ Bob O'Brien _____ Date__08Apr08_____
Reviewer: __ Deb Audino_____Date__08Apr08_____

1. **Purpose:**
   1.1. Assembly and disassembly of the XCell *SureLock* ™ mini-cell gel box.
2. **Scope:**
   2.1. Applies to the assembly and disassembly of the XCell *SureLock*™ mini-cell gel box for use in SDS PAGE.
3. **Responsibilities:**
   3.1. It is the responsibility of the course instructor /lab assistant to ensure that this SOP is performed as directed and to update the procedure when necessary.
   3.2. It is the responsibility of the students/technicians to follow the SOP as described and to inform the instructor about any deviations or problems that may occur while performing the procedure.
4. **References:**
   4.1. XCell *SureLock* ™ Mini-Cell Gel Box Instruction Manual.
5. **Definitions:** N/A
6. **Precautions:**
   6.1. Do not attempt to use the XCell *SureLock*™ mini-cell gel box without the XCell *SureLock* lid.
   6.2. Maximum voltage limit: 500 VDC
   6.3. Maximum power limit: 50 Watts
   6.4. Maximum operating temperature limit: 70°C
   6.5. Acrylamide is a neurotoxin. Always wear protective gloves when handling the polyacrylamide gels.
7. **Materials:**
   7.1. pre-cast gel cassette
   7.2. D.I. (deionized) water
   7.3. running buffer
   7.4. external power supply
   7.5. XCell *SureLock* ™ Mini-Cell
   7.6. buffer core with electrodes
   7.7. cell safety lid with power cords
   7.8. gel tension wedge
   7.9. buffer dam
   7.10. gel knife
8. **Procedure:**
   8.1. **Assembly of the Gel Box**
      8.1.1. Lower the buffer core into the lower buffer chamber so that the negative electrode fits into the opening in the brass plate.
      8.1.2. Cut open gel cassette pouch with scissors, drain away and dispose of the gel-packaging buffer.

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8.1.3. Handling cassette by its edges only, remove the gel cassette from the pouch and rinse with D.I. water.

8.1.4. **Peel off the tape** covering the slot on the back of the gel cassette.

8.1.5. In one fluid motion, carefully remove comb from cassette.
Note: Do not twist comb, pull straight out or damage to wells may occur.

8.1.6. Use a pipette to gently wash the cassette wells with running buffer, invert the gel and shake gently to remove buffer. Repeat twice.

8.1.7. Fill the sample wells with running buffer. Be sure to remove any bubbles from cassette wells.

8.1.8. Insert the gel cassette into the lower buffer chamber to create the upper buffer chamber.

8.1.8.1. If running only one gel, place the gel in front of the buffer core with the shorter (notched) side of the cassette facing in toward the core. Place the buffer dam behind the core. **Do not discard buffer dam.**

8.1.8.2. If running two gels, place one cassette in front of the buffer core and one cassette behind the core, making sure that the shorter (notched) sides are facing in towards the core.

8.1.9. Slide Gel Tension Wedge into the lower buffer chamber behind the buffer dam (or behind second gel) with the tapered end pointing up. See Figure 2.

8.1.10. Pull forward (toward the front of the unit) on the Gel Tension Lever until lever comes to a firm stop and the gels or gel/buffer dam appear snug against the buffer core. See Figure 2.

8.2. **Run the gel.**

8.2.1. Load and run the gel per the SDS-PAGE SOP

8.3. **Disassembly of the XCell *SureLock*™ Mini-Cell Gel Box**

8.3.1. Upon completion of the run, turn off the power and disconnect the electrode cords from the power supply.

8.3.2. Remove the lid.

8.3.3. Unlock the Gel Tension Lever by pushing the lever toward the back of the unit.

8.3.4. Remove gel cassette from the assembly. Handle gel cassette by the edges.

8.3.5. Lay the gel cassette on top of a lab towel, with the shorter plate on top. Allow one side to hang approximately 1 cm over the side of the bench top.

8.3.6. Insert the gel knife between the two plates. See **Figure 3**. (HINT: It may be easier to start with the corner.)

8.3.7. Twist the handle to separate the plates. You will hear a cracking sound which means you have broken the bonds which hold the plates together.

8.3.7.1. Do not push the knife forcefully between the cassette plates or the gel may be cut into and damaged.

8.3.8. Rotate the cassette and repeat steps 8.3.6. and 8.3.7. until the two plates are completely separated.

8.3.9. Using hands only and being very careful not to rip the gel, gently remove and discard the top plate, allow the gel to remain on the bottom plate.

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8.3.10. Holding the cassette plate over a container with the gel facing downwards gently push the gel knife into the slot at the bottom of the cassette, until the gel peels away from the plate.
8.3.11. If the gel is not easily removed, rinse with D.I. water from a squirt bottle inserted gently between the plate and the gel.
8.3.12. Cut the lip off the bottom of the gel (If needed).
8.3.13. Discard running buffer and rinse gel box well with deionized water. Do not use brushes. Do not immerse top of gel box or electrical components.

8.4. **Stain the gel.**
8.4.1. Stain the gel per the SDS-PAGE SOP.

9. Attachments:
9.1. Figure 1: Gel Box Parts
9.2. Figure 2: Assembled Gel Box Side View
9.3. Figure 3: Opening a Gel Cassette

10. History:

Name	Date	Amendment
Katrice Jalbert	030106	Initial Release
Bob O'Brien	08Apr08	Update the date format, change college name and remove outline of text boxes.

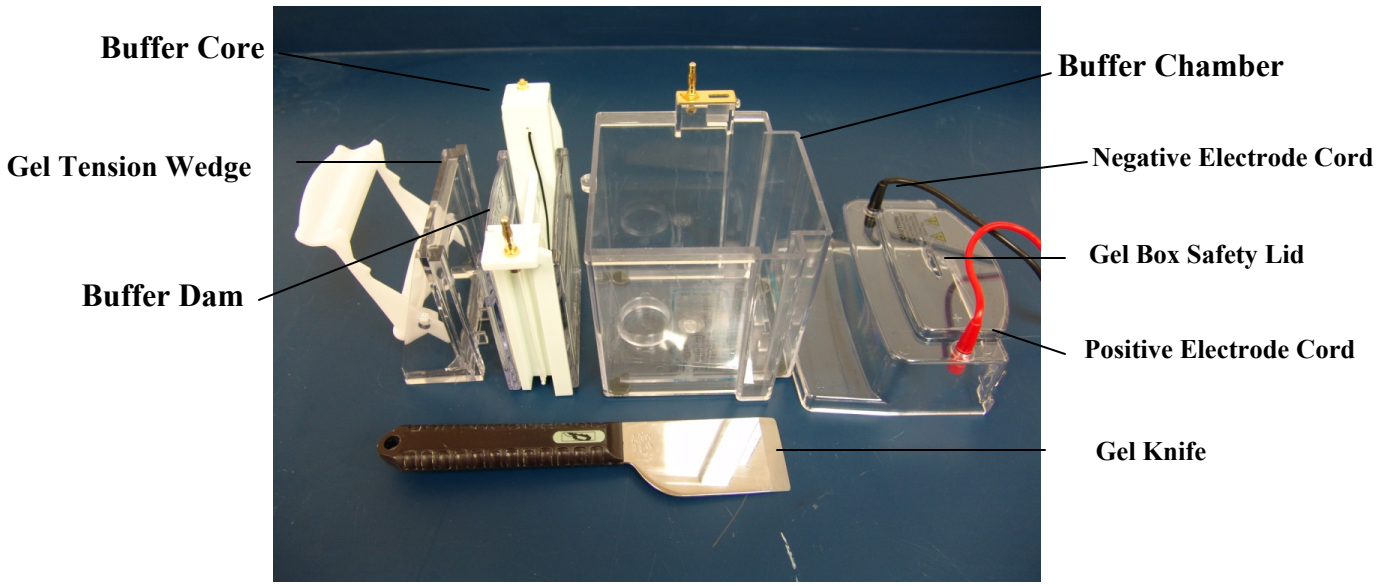

Figure 1: Gel Box Parts

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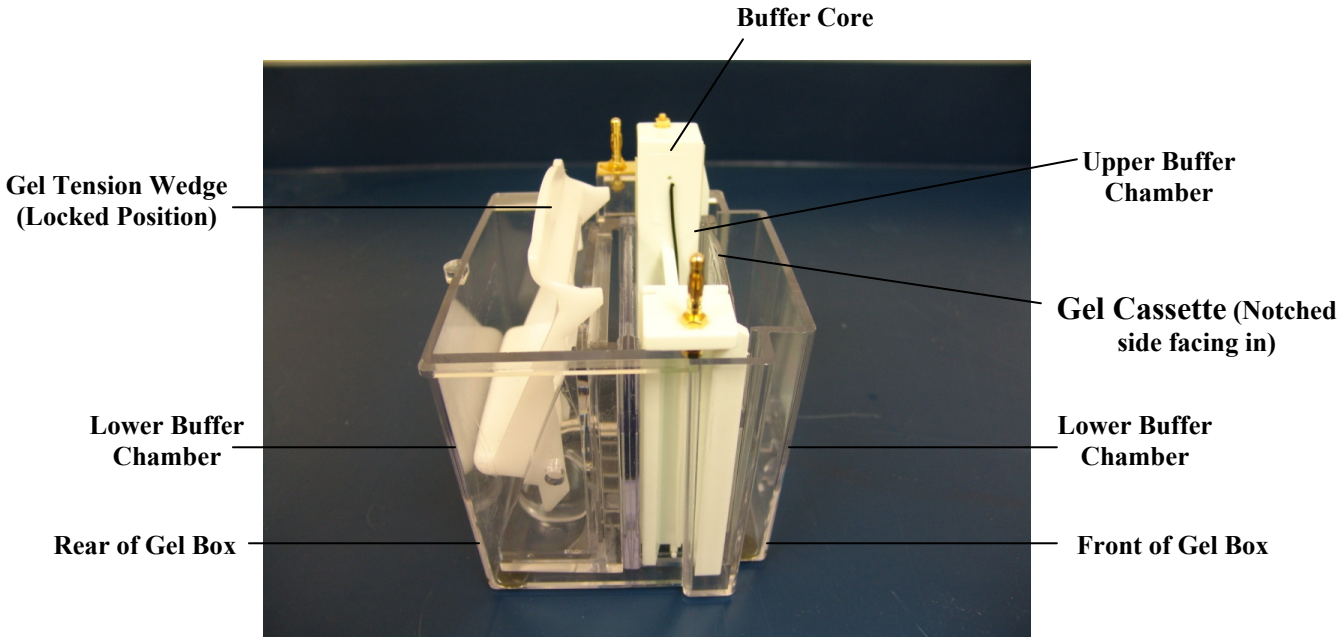

Figure 2: Assembled Gel Box Side View

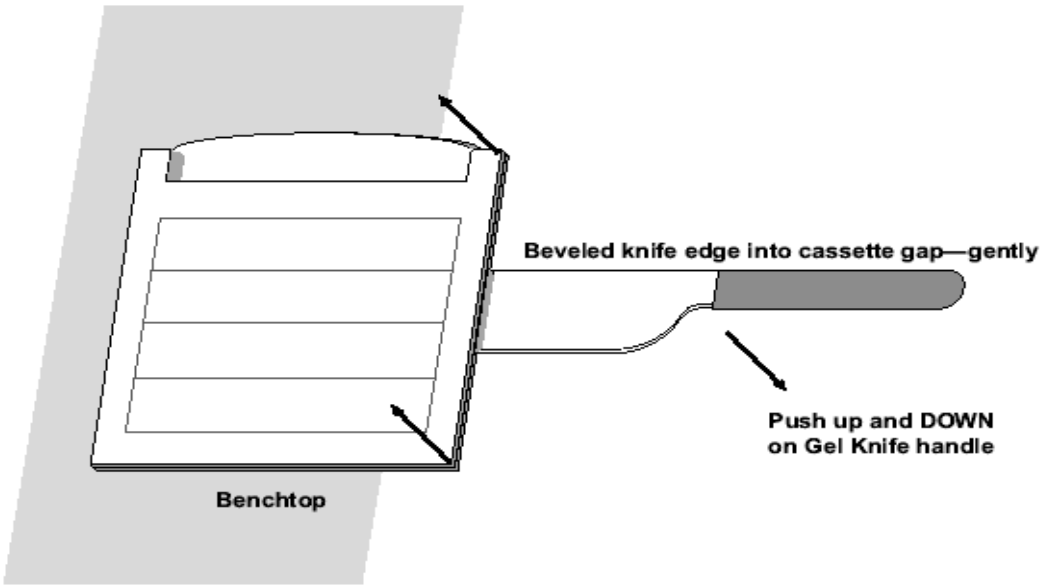

Figure 3: Opening a Gel Cassette