Apr 5, 2010

Genetix Cell Dispense User Guide

- SIDNET has both 500mL and 1000mL bottles for Cell Dispense (have vacuum nozzle on top of lid), the instrument can also be used with a 50ml Falcon tube

- SIDNET has both an 8 channel manifold (for 96 well plates) and a 16 channel manifold (for 384 well plates)

To Start Filling a Plate:

(a) Fill media bottle with desired medium (and antibiotic if needed)

(b) Place bottle to right of Cell Dispense (in Falcon tube assembly if using 50mL tube, note that our current BD Falcon tubes are a bit short for the aspiration nozzle)

- (i) Connect yellow pressure line to quick release port on bottle or on 50mL Falcon assembly

(c) Unwrap sterile manifold and place in slot above waste tray; make sure it latches securely

- (i) Make sure to attach the correct RFID button using a hex key (a set is in the bottom drawer of the chest in the TC lab)
- (ii) Note that the manifold height can be adjusted using the large grey dial to allow for deep well plates

(d) Unwrap package of sterile tubing, and attach 2 tubes as follows:

- (i) Attach longest tubing from port on bottle or 50 mL Falcon assembly to upper barbed fitting on front of unit
- (ii) Attach short tubing from lower barbed fitting to port on manifold

(e) Turn on Cell Dispense (switch located left of power cord on back of unit)

(f) Initialize machine by pressing "reset" button.

(g) If you wish to only dispense to certain columns of the plate then select Menu>Session Setup>Sel. Row:

- (i) Fill every (fills entire plate)
- (ii) Alternate from 1 (fills every second column starting from the 1st one
- (iii) Alternate from 2 (fills every second column starting from the 2nd one
- (iv) Other pattern (goes through each column allowing you to select whether it gets dispensed into or not)

(h) Press the "purge" button to purge tubes of air, and fill with desired medium

- (i) It is recommended that for dispensing cells you first prime the instrument with several milliliters of the full media the cells are suspended in

(i) Use the "vol." button to select desired volume of liquid per well

(j) Remove lid from plate, and place on plate rack

- (i) Note that if you're dispensing less than a full plate the unit starts from the right side of the carrier so the plate should be loaded with A1 in the lower right corner

(k) Press "start/stop" button to begin filling. The Cell Dispense will complete dispense according to set parameters and return to starting position

(l) Re-seal plate, and repeat for remaining plates

After Filling a Plate:

(a) Remaining reagent can be recovered:

(i) Press Purge>Backfill

(b) Disconnect vacuum tube FIRST, then disconnect filling pin tube

(c) Fill media bottle with ddH2O, reconnect and complete purge to rinse tubing

(d) Turn off Cell Dispense and disconnect all tubing

(e) Rinse media bottle with ddH2O, dry, cover top of lid with tinfoil, and autoclave to sterilize

(f) Wrap the 2 tubes with tinfoil and autoclave to sterilize

(g) Remove manifold from instrument. Remove RFID button using hex key and put in safe place.

(h) Wrap manifold in tinfoil or place in empty tip box (preferable method to prevent pin damage) and autoclave.

Cell Dispense Precision

02/02/2009

Plate	Volume dispensed	Test 1	Test 2	Test 3	Test 4
96	85 ul	2.60%	4.10%	3.40%	
96	10 ul	6.40%	3.90%		
384	85 ul/90 ul	5.80%	2.10%	4.80%	2.10%
384	50 ul	1.70%	1.70%		
384	10 ul	2.10%	1.90%		

- Dye added by manual multichannel by Gregg, water added by Cell Dispense
- Most CVs are below 5%, which is pretty respectable, esp since this value is a combination of the manual and Cell Dispense pipette.

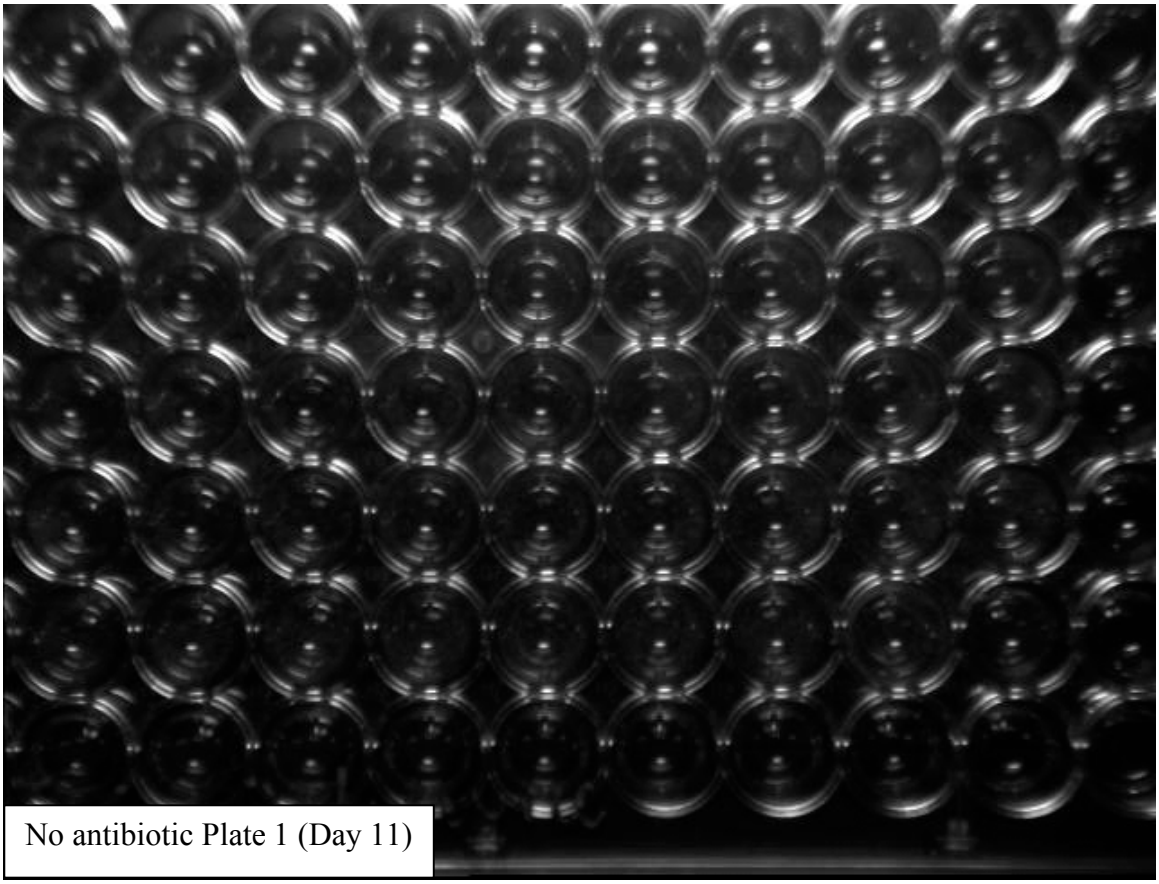
Test of Genetix Cell Dispense Cleanliness

Feb 20, 2009

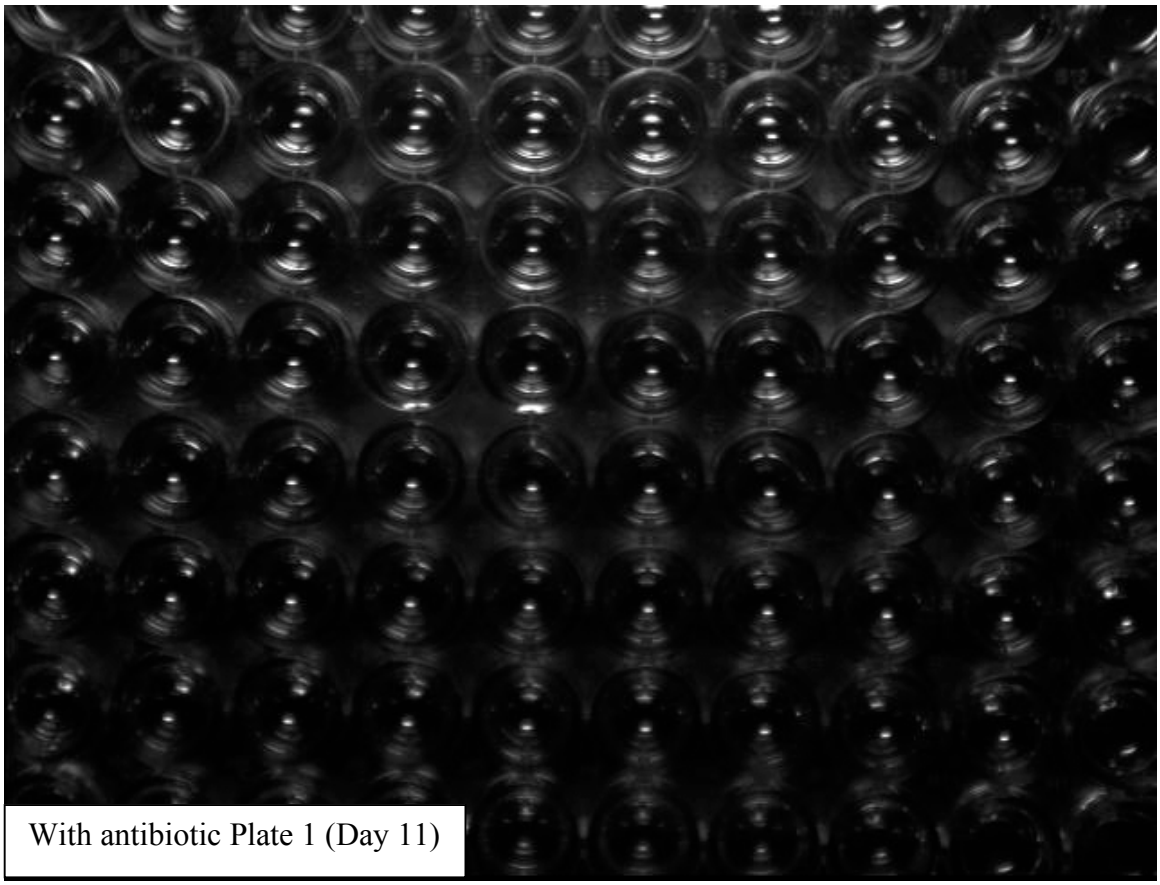
Sterile media dispense

1. Wipe down Cell Dispense with ethanol.
2. Place in cleaned Biosafety Cabinet.
3. Connect tubing and manifolds.
4. Add media in 50ml Falcon tube and thread in (our tubes are slightly shorter than the nozzle allows but it works).
5. Dispense 100 ul/well media +/- antibiotic into 1 plate.
6. Place plates in 37^{o}C incubator.

Day 3 - no visible contamination by eye or by microscope (only checked antibiotic (–) plates by microscope)
Day 4 - no visible contamination by eye or by microscope (only checked antibiotic (–) plates by microscope)
Day 5 - no visible contamination by eye or by microscope (only checked antibiotic (–) plates by microscope)
Day 6 - no visible contamination by eye or by microscope (only checked antibiotic (–) plates by microscope)
Day 11 - no visible contamination by eye or by microscope (only checked antibiotic (–) plates by microscope)



No antibiotic Plate 1 (Day 11)



With antibiotic Plate 1 (Day 11)