Systems Virology
of Emerging Respiratory Viruses

T006.0P - Operating the Agilent Microarray Scanner
(4/11/10, Lynn Law)

1. Scanner Set Up

- It is best to set up the scanner before starting to wash slides.

  1. Log in: Administrator; Password: 3000hanover.
  2. Open scanner.ht (shortcut on desktop) and do the following:
     - transfer\capture text
     - In dialog box, update the name with current date. Hit start button. This collects information about the scanner operation.
  3. Open Agilent scan control. Scanner will initialize and the laser will turn on and warm up. The laser needs to warm up for ~ 30 min before using.
  4. Enter the number of slides to scan: start **1** end **#.**
  5. Select 'Katze 4x44 traditional'.
  6. Settings should be the following:
     - Res   5uM
     - TIFF   16 bit
     - R PMT 100 %
     - G PMT 100 %
     - XDR   0.10
  7. Set up the data Output/Path (the data is stored locally):
     - Go to My computer/ D drive.
     - Make a new folder. Example:D:\ScanData\name_date (e.g. jchang_12_21_09).

2. Scanning Slides

  1. Insert slides into Scanner
  2. Put down a piece of clean foil.
  3. Lift carousel out of scanner, place on bench and remove lid.
  4. Put slide into plastic holder, Agilent side facing up.
  5. Push down on plastic holder, slide and click. Do not touch slide!
  6. Slides only go into carousel slots in one direction. Make sure the holder is lined up. Carefully lower it into place.
  7. Do not turn the carousel once it is lowered or you can damage the scanner.
  8. Click the button Scan slot 1-? to start the scan.
  9. After the scans are completed, check the scan intensities using Agilent's feature extraction software before removing the slides from the scanner.
     a. Open Agilent Feature Extraction
     b. For each scan go to File\Open\Image.
     c. Open the high and low scans for each slide.

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  d. Go to Color/Set Color Display Range.
  e. Note the value for the Green Maximum for each scan.
  f. The High (H) scan should be 10X the intensity of the Low (L) scan.
  g. Each of the high scans (and low scans) should have similar overall values.
  h. If not, either rescan the slide (recheck the settings first) or ask for help.
  i. If all of the scans look good, remove the slides from scanner.

3. **Uploading scans.**
   1. Turn off the scan control (unless someone else needs to use it right away).
   2. Log into LabKey and upload the slides to the correct project.
   3. Leave the main power switch and computer on when you are done.