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ReadyAgarose™ 96 Plus Wizard

in Quantity One® Basic Software



BIO-RAD



Upgrade to Quantity One[®] 1-D Analysis Software

and take advantage of many more downstream features

	Quantity One	Quantity One Basic
Acquire images	•	•
Open TIFF images	•	•
Export to TIFF	•	•
Print images	•	•
Text tool	•	•
Line tool	•	•
Auto-align text	•	
Volume contour tool	•	
Volume freehand tool	•	
Volume rectangle tool	•	•
Volume circle tool	•	•
Volume array tool	•	
Volume report	•	•
Colors	•	•
Plot density	•	•
Multichannel viewer	•	
Image stack tool	•	
3D viewer	•	•
Transform	•	•
Crop	•	•
Advanced crop	•	•
Flip	•	•
Rotate 90°, 180°	•	•
Custom rotate	•	•
Frame lanes	•	
Detect bands	•	
Compare lanes	•	
Gaussian model bands	•	
Contour	•	
Assign MW standards	•	
Match bands	•	
Show band models	•	
Lane report	•	
Phylogenetic tree	•	
Similarity matrix	•	
Automation manager	•	
Colony counting	•	
Differential display	•	
ReadyAgarose 96 Plus wizard	•	•



Quantity One Basic software is a free version of Bio-Rad's The Discovery Series™ Quantity One 1-D analysis software. It allows you to take advantage of many useful image analysis features, including the ReadyAgarose 96 Plus wizard.

The ReadyAgarose 96 Plus wizard in Quantity One allows you to manipulate a ReadyAgarose 96 Plus gel image to rearrange the sample lanes, simplifying analysis. ReadyAgarose 96 Plus gels are 4- and 12-channel pipet compatible. However, the tip-to-tip spacing of the multichannel pipets results in adjacent samples from microplates being loaded in every other well on the ReadyAgarose 96 Plus gel. The ReadyAgarose 96 Plus wizard rearranges the lanes and displays them in the original 96-well plate sequence, thus simplifying sample tracking for analysis.

To obtain your free Quantity One Basic software:

- Go to www.bio-rad.com/products/quantityonebasic/. This web page gives an overview of Quantity One Basic and directs you to a page where you can download Quantity One. The free features of Quantity One Basic are accessible without a password or license or
- Request the Quantity One software CD-ROM (catalog #170-8605) from your local Bio-Rad sales representative

Working with Quantity One software and the ReadyAgarose 96 Plus wizard is as easy as 1, 2, 3!

Step 1

Acquire/import an image

Step 2

Optimize the image

Step 3

Use the ReadyAgarose 96 Plus wizard

1

Acquiring or Importing an Image

Acquire your ReadyAgarose 96 Plus images using Quantity One software and Bio-Rad imaging products, or import a TIFF image into Quantity One from an alternate imaging source.

Acquiring Images Using Quantity One Software and a Bio-Rad Imager

Quantity One software can capture images from Bio-Rad's suite of multiimagers (Molecular Imager FX™ Pro, Molecular Imager FX™ Pro Plus, and Personal Molecular Imager FX™), fluorescent imager (VersaDoc™), gel documentation systems (Gel Doc™ EQ, ChemiDoc™ EQ, and ChemiDoc™ XRS), and densitometer (GS-800™ calibrated densitometer). Each instrument is operated through a Quantity One software control panel. Each control panel guides you through the process of acquiring and saving images for analysis. Please refer to the Quantity One User Guide for further instructions on acquiring images using Quantity One software.

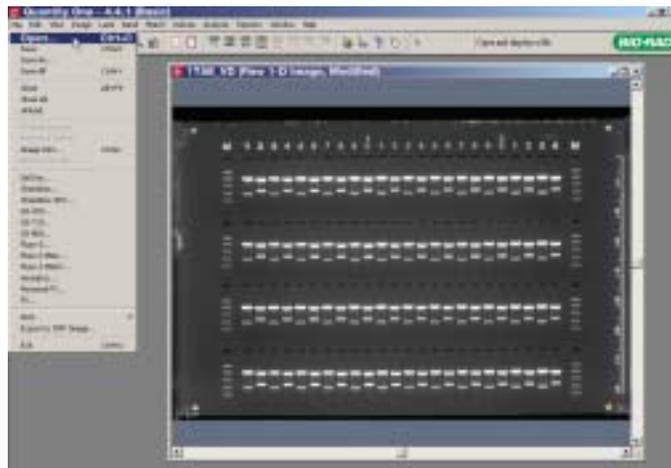
Importing a TIFF Image Into Quantity One Software

1. Click Open under the File menu.
2. Browse for your TIFF image and click the Open button. This will open your gel image in Quantity One.

Tips

For best results when acquiring your images:

- Zoom in on the ReadyAgarose 96 Plus gel using the camera lens to minimize blank space around the gel. This will result in better resolution of your image. This is extremely important with low-resolution imagers (8-bit, ≤256 grays)
- Image the ReadyAgarose 96 Plus gel on its UV transparent tray. Be sure that the four corner triangles on the gel tray are included, as you will be prompted to identify their locations in the ReadyAgarose 96 Plus wizard



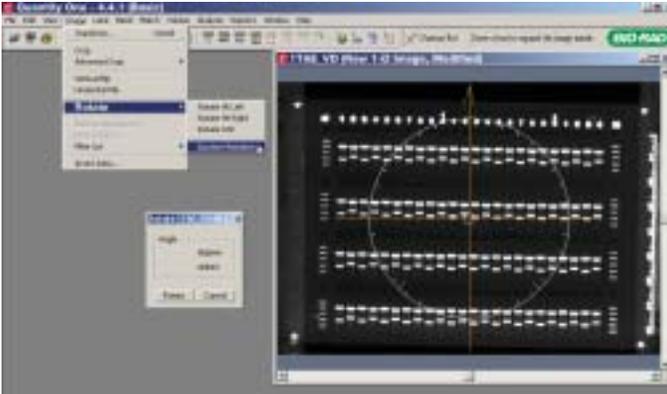
Acquiring the image.

2

Optimizing the Image

1. Check that the ReadyAgarose 96 Plus gel image is straight. If the image is at an angle, follow these steps to straighten it using the Rotate function in Quantity One software:

- A. Go to the Image menu
- B. Select Custom Rotation under Rotate
- C. Click the mouse cursor on the screen and straighten the image using the horizontal axis. Then click Rotate

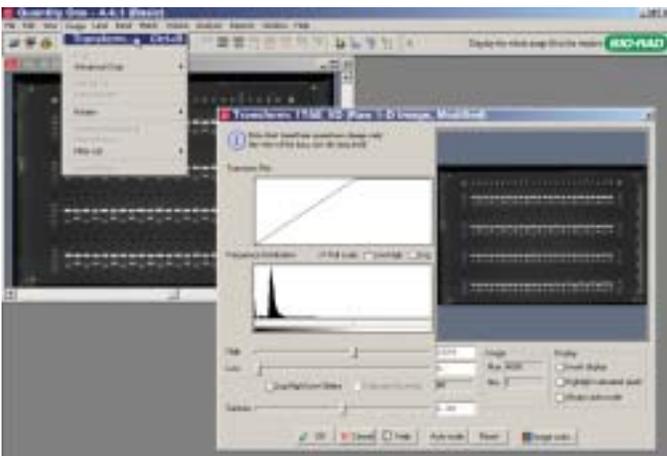


Rotating the image.

2. If necessary, optimize the brightness or contrast of the image by following these steps:

- A. Go to the Image menu
- B. Select Transform
- C. Use the slider bars to optimize the contrast or brightness of the image
- D. Click OK when finished

Note: The Rotate and Transform controls in Quantity One affect the display only, not the underlying data.

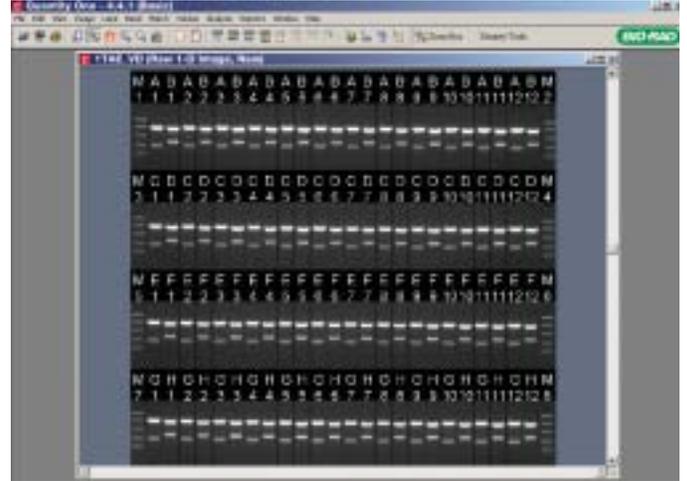


Adjusting the brightness and contrast of the image.

3

Using the ReadyAgarose 96 Plus Wizard

Once you have acquired your image, select ReadyAgarose 96 Plus from the Analysis menu. This opens the ReadyAgarose 96 Plus wizard. The ReadyAgarose 96 Plus wizard assumes that the gel is loaded from a 96-well plate and presents it as shown below.



Original orientation of the gel.

I. Positioning the Image

The first panel of the wizard displays the gel image with four red crosshairs.

1. Click and drag each crosshair to place it over one of the four triangles visible in the corners of the gel tray. The positioning of the crosshairs enables the software to recognize the appropriate area of the gel image to analyze.
2. Click Next after correctly positioning the crosshairs.



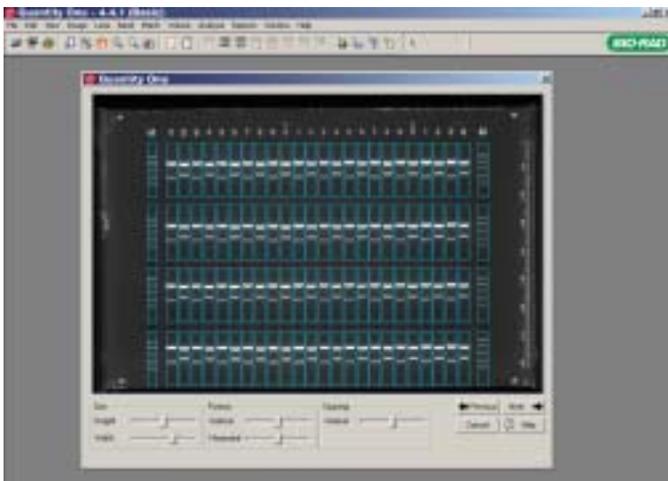
Positioning the image.



II. Resizing, Repositioning, and Spacing the Lanes

In the next panel, the image displays blue lane overlays over the sample and marker lanes, based on the positioning of the crosshairs in the previous panel.

1. Check the positioning of the overlays. Each lane overlay should include all the DNA bands in that lane.
 - A. If the positioning of the overlays is not satisfactory, use the slider bars at the bottom of the panel to change the position, resize the lanes, or modify the vertical spacing of the lane
Note: The sliders move, resize, or space all the lanes at once.
 - B. If the slider bars do not adequately adjust the lane overlays, click Previous to return to the first panel, and reposition the crosshairs on the four triangles to improve the alignment of the lane overlays
2. When you are satisfied with the positioning of the lane overlays, click Next.



Resizing and repositioning the lanes.

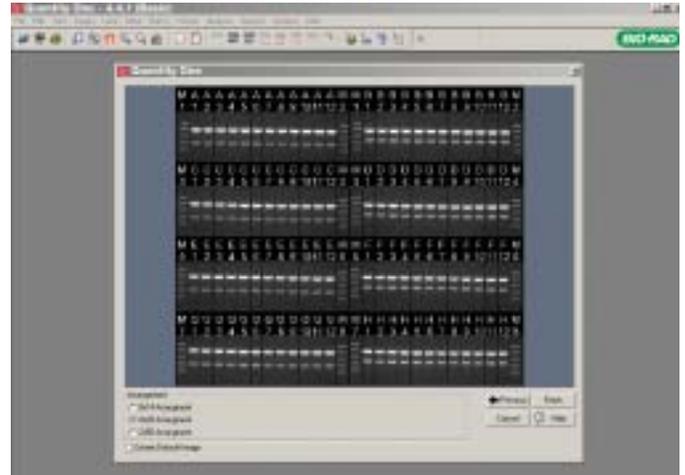
III. Arranging the Lane View

This panel places the 96 sample lanes in the rearranged view. The resulting image view is 4 x 28 lanes. The image also has embedded text indicating the corresponding microplate from which each sample came.

- You may display the gel in an 8 x 14 or a 2 x 56 arrangement. To arrange the lanes in a different view, select the appropriate view at the bottom of the panel
- If you would like Quantity One to create an additional image of the gel with the lanes in their original positions (as the gel was loaded), check the Create Default Image box. This image also has the embedded text indicating the corresponding well from the 96-well plate

Note: For images acquired by low-resolution imagers (8-bit, ≤ 256 grays), the embedded text may not appear clearly on the screen. However, the text will be clear when printed or when you zoom in on the image.

1. When you are satisfied with the gel arrangement, click Finish to create your new image.
2. To save the image, go to the File menu and click Save As. Quantity One will suggest a default name; however, you can rename the image. Click Save.



Arranging the lane view.

Optional

Downstream Analysis Using Quantity One Basic Software

After the ReadyAgarose 96 Plus gel image is rearranged, Quantity One and Quantity One Basic software can be used for further downstream analysis.

The following can be performed using Quantity One Basic:

- Band and object quantitation using volume tools
- Text and line annotations for presentations and publications

The following can be performed using Quantity One 1-D analysis software (in addition to the features offered in Quantity One Basic):

- Automatic lane and band detection
- Molecular weight detection and band matching
- Array analysis and colony counting

Please refer to the Quantity One User Guide for instructions on using these features.

The Bio-Rad logo consists of the words "BIO-RAD" in a bold, white, sans-serif font, enclosed within a green rounded rectangular border.

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