

Bio-1D

> **Turn your search into answers**

Molecular weight

The molecular weight module features the calculation of electrophoretic distances for the MW, the Fragments sizes and the RF values (IEF).

Volume quantification

Volume quantification is based on the digitalisation of the image in pixels whose intensity is coded on a scale of gray levels. The density of a spot is calculated from its volume. This is made by the sum of all pixel intensities composing the spot.

Microtitration

The microtitration fasters the quantification in the case of a plate of wells. The analysis grid fits perfectly to any kind of microtiter plates and facilitate the analysis.

Automatic squaring

The automatic squaring eases the quantification in case of regular layout of bands in lines and columns. The volume of each spot is calculated according to the pre-defined area of interest. Each volume can be compared to either one spot used as the reference, or the sum of several spots of one row or one column.

Colony counting

Bio-1D includes a colony counting function for the automatic counting and the characterization of colonies. The software offers unique customisable detection parameters and distinguishes up to two different kinds of colonies. User can either select the fully automatic one-click mode or the manual total-control approach.

Image enhancement

The image enhancement module prepares your image for analysis or publication. The large choice of filters or manipulations optimises your image according to your own requirements.

Print-Designer

Print-Designer is the powerful desktop publishing tool of Bio-1D. All your analytical data can be exported in a graphical format for printout or archiving. The published report can be saved as a template and re-used as for further publishing. Thanks to its highly intuitive interface, Print Designer is very user-friendly and does not require any specific training to get a professional report.

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Specifications

Molecular weight calculation (electrophoretic distance)

- Detect automatically the gel's band
- Control the detection parameters or adjust manually the detection
- One-click automatic lane and band detection mode
- Realignment of the band position for gels using several marker lanes
- Vertical or horizontal lanes
- Correct the band and front distortion (smiling effect)
- Visualize the lane's profile
- Load or edit molecular weight marker
- Correct the marker's value assignment using the marker migration curve
- Calculate the molecular weight, the pH or the RF values
- Sort the results to display identical values using a percentage of tolerance
- Calculate and display dendrogram using Nei and Li (Dice) or Jaccard similarity coefficients
- Select your dendrogram calculation method from 7 approaches
- Display matching matrix using a confidence interval
- Subtract the background
- Calculate band volume, height, area
- Recalculate the volume using a master or a calibration curve
- Export your results to Excel™ compatible file

Volume quantification

- Full-control for manual band selection or modification
- Select from one out of three background subtraction methods (horizontal, valley to valley or deconvolution)
- Calculate the spot volume, height and area
- Compare the profiles by superposition
- Use a quantification threshold to distinguish the bands from the smears on the lane
- Recalculate the volumes using a reference, an average, or the sum of spots (100%)
- Recalculate the volume by interpolation, using a calibration curve
- Modify the heading unit (% , ng, etc.)
- Display the results in the form of bar chart or curve profiles
- Export your results into an Excel™ compatible file

Microtitration et automatic squaring

- Define your area of interest using the pre-defined grid
- Adjust the parameter of the grid
- Display the profile
- Calculate the volume, the height and the area
- Compare the volume of one spot to a reference
- Recalculate the volume by interpolation with a calibration curve
- Export your data to Excel™ compatible file

Colony counting

- One-click mode for automatic colony counting
- Total-control mode for manual colony counting
- Colony characterization (volume, area, perimeter, gravity, compacity, eccentricity...)
- Colony filtering to discard some of the colonies depending on their characteristics
- Exclusion folder which define contaminated areas in which no colony will be counted
- Reports and overlay display of the colony number
- Full GLP file

Image enhancement and management

- Cut, copy and paste inside the original image or the new one
- Modify the image format to TIFF, BMP, GIF, MAC, PICT, WPG, PCX, TGA, or JPEG
- Print on the default desk printer
- Zoom in or out with pixels recalculation
- Add comments or symbols
- Rotate the image using a manually defined angle
- Reverse the image according to an horizontal or vertical axis of symmetry (as seen in a mirror)
- Invert the image to obtain a negative or a positive display
- Enhance the image display by selecting the gray values to be displayed
- Replace gray levels by pseudo-colours

Print designer

- Create a customisable publishing template
- Insert text or symbols
- Annotate your image or your results
- Insert the analysed image, the result matrix or the result graphs
- Draw lines and geometric shapes (rectangles, ellipses, ...)
- Cut Copy Paste in a very user-friendly interface

