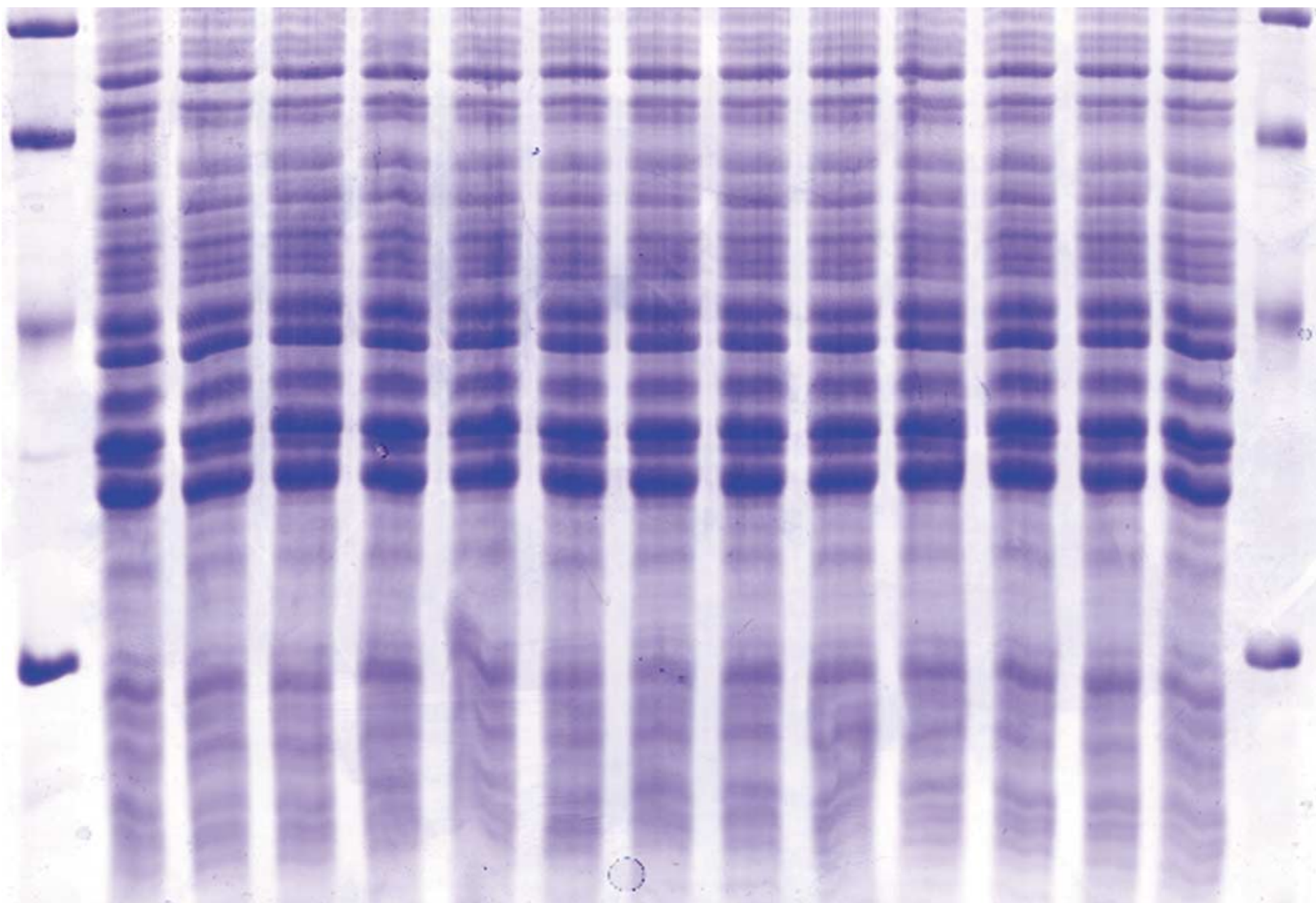
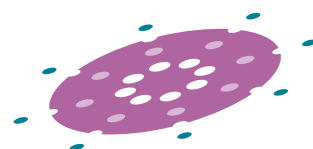


# GEL-PRO<sup>®</sup> ANALYZER



THE COMPLETE IMAGE ANALYSIS SOLUTION  
FOR MOLECULAR BIOLOGY

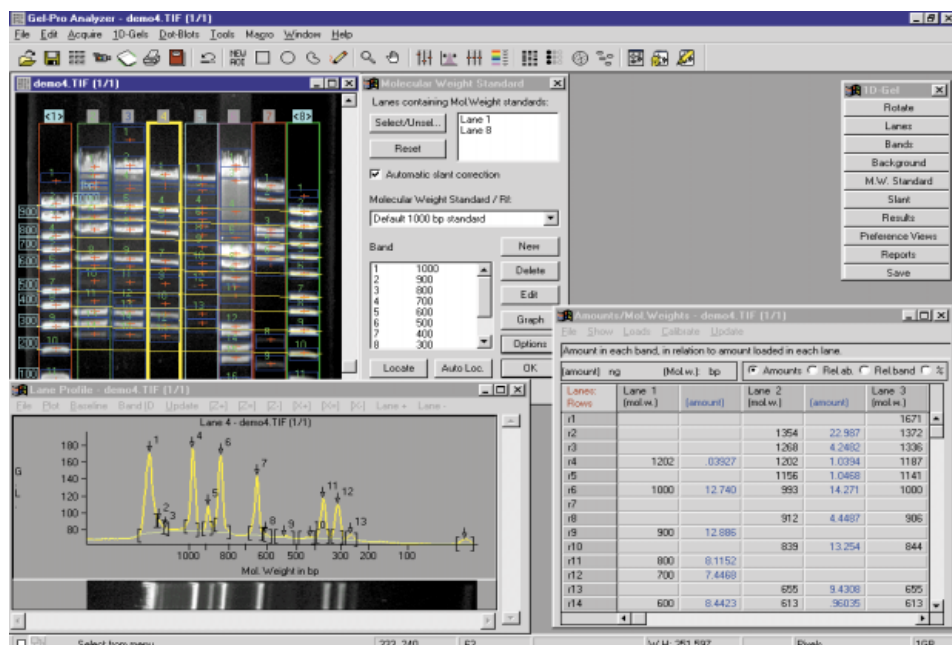


**MediaCybernetics<sup>®</sup>**  
From Images to Answers<sup>®</sup>

# Gel-Pro<sup>®</sup> ANALYZER

The Proven Solution™

- 1-D Gel
- Dot/Slot Blot
- Colony Counting \*
- Area Density \*



Data analysis windows from version 4.0

Gel-Pro Analyzer is designed for molecular biologists who acquire images from electrophoretic gels, blots, and colonies, and need to extract valuable qualitative and quantitative information from them. Gel-Pro Analyzer benefits from Media Cybernetics' 20 years of experience in producing image analysis software. Most competitive products require manual input by the user which is time consuming and leads to irreproducibility. In contrast, Gel-Pro automates molecular weight and amount calculation through use of pattern recognition of objects, lanes, and bands.

## PRODUCT HIGHLIGHTS

- Transfer camera images directly to your PC in digital form.
- Analyze images from Twain-compatible desktop scanners, other camera systems or digital imagers.
- Utilize the speed and power of a 32-bit application under Windows® 98, NT or 2000 operating environments.
- Customize analyses specifically for your lab with built-in macro programming and via Visual Basic® extensions.
- Annotate and identify input.
- Store images and annotations in a graphic database.

- Recognize lanes, bands, and background automatically.
- Correct gel smiling.
- Determine molecular weights, size, and isoelectric points with multiple standard lanes.
- Report data in tabular and graphic formats.
- Export data to Microsoft® Excel and other Windows applications automatically.
- Transfer information via Internet FTP and e-mail from within the software.
- Interpret data from regular and irregular dot blot arrays.

## ACQUIRE...ARCHIVE...

### ACQUIRE AND WORK WITH A VARIETY OF IMAGE FILE TYPES

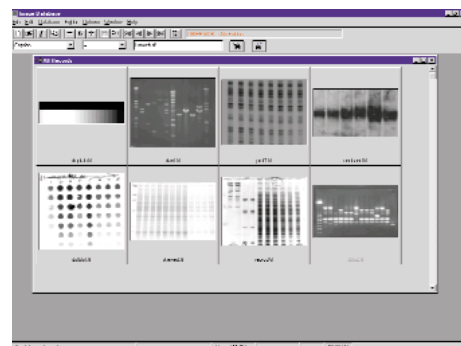
- Use any of the vast array of sophisticated camera and scanner acquisition drivers developed by Media Cybernetics.
- Accumulate, average, preview, limit saturation and otherwise control image acquisition.
- Extensive file import/export capability.
- Acquire sequences and extract frames for analysis.\*

\*Applies to version 4.0; all other features are shared with version 3.1.

## ORGANIZE... DOCUMENT...

### ORGANIZE AND TRACK EXPERIMENTS WITH A DATABASE

- Search or display thumbnail (or larger) representations of multiple images simultaneously, regardless of image format or location.
- Point and click on one or more images to select, copy, move, rename or delete image files.
- Search by experiment title, experiment type, experimenter's name, date, time, file name, comments and many other defining characteristics.
- Recall the image and associated information, such as the steps and settings required to detect bands, molecular weight and amount determination, and background correction.
- Automatically recover analyses in progress due to inadvertent computer power loss \*

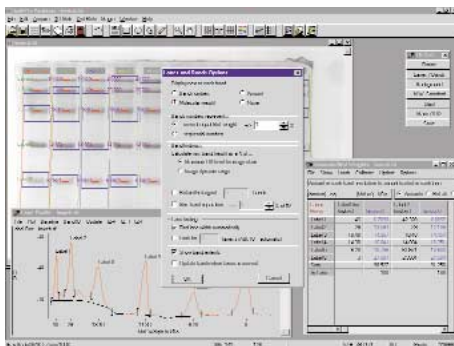


Gallery View of Experiment Database

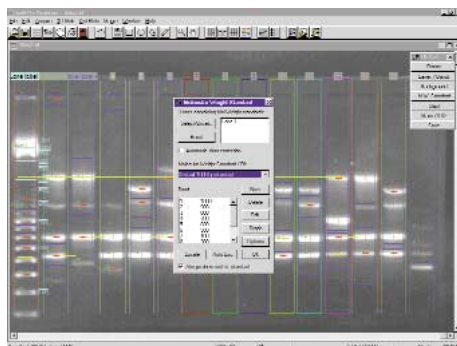
## TOOLS FOR PRESENTATION

Document the important features of the experiment for communication to others.

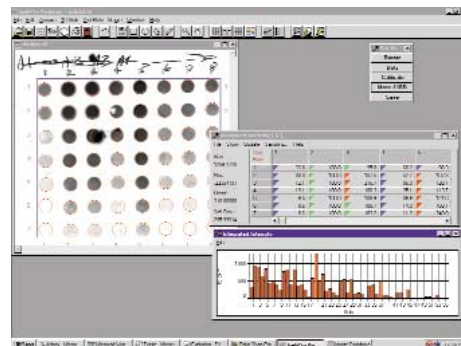
- Add text comments anywhere on the image in various fonts and sizes.
- Draw lines, arrows, boxes, or circles to emphasize important features.
- Name lanes on the image by sample, preparation or conditions — the names also appear as data table column headings. Band names appear as row headings.
- Control zoom, contrast, brightness, gamma correction, false color assignment and more.
- Adjust for optimal contrast/brightness display with one button.
- Work with 3-D surface plot to aid data interpretation \*



Analysis and Documentation Options



Molecular Weight Standard Assignment



Dot Blot Table and Graph

## ANALYZE...INTERPRET...

### LANE DEFINITION, PROFILE AND TABULAR RESULTS

Gel-Pro Analyzer software was designed to minimize the time you spend finding lanes, bands and establishing background levels. This lets you maximize your time for experiment interpretation. The lanes and bands can be found automatically and the area in each band presented in a table — all at one stroke. You can even have size standard lanes recognized automatically for calculation and tabulation of base pairs, molecular weight or pl. Each gel image is considered and experiment that has an associated procedure. By choosing one of the provided procedures, or creating one of your own, the appropriate menus, units and standards are automatically loaded.

*You may execute all of the following automatically in a single step!*

- Find lanes (even curved lanes).
- Find bands.
- Remove background.
- Calculate band areas.
- Produce a band information table.
- Generate reports of the information, including graphics and tables.

Built-in macro programming is as simple as recording keystrokes. Or go to a deeper level for sophisticated custom solutions tailored for your lab's specific requirements. Use the macro programming language, link to other applications automatically (such as Microsoft Excel) or build Visual Basic extensions.

### DETERMINE MOLECULAR SIZES

- Determine molecular lengths, molecular weights or pl's quickly. Click on the lane with the standards and the software matches bands to the standard values automatically.
- Use built-in standard size lists for DNA, RNA or protein molecular weight standards.
- Create your own custom list of standards.

- Use multiple standard lanes with automatic slant adjustment.
- Hyperbolic cosecant curve fitting option produces more accurate MW calculation for small DNA fragments (under 1,000 base pairs) run in polyacrylamide \*
- Polynomial slant fit lines may be specified to follow uneven migration more closely and give more accurate results.\*

### HANDLE THOSE PROBLEM GELS

- Use curved lane tracking, slant adjustment, and smile correction across the width of the gel.
- Background settings and lane width can be individualized for each lane.\*
- Simple click and drag operations adjust band integration areas on the profile or image.\*
- Field correction deals with uneven illumination and assures that band intensities can be compared accurately across the full width of a gel.

### DOT/BLOT ANALYSIS

Slot blots and dot blots can be analyzed quantitatively with the same powerful routines. Slots and dots within a regular array or positioned individually are identified with rectangles or circles to define the area of integration.

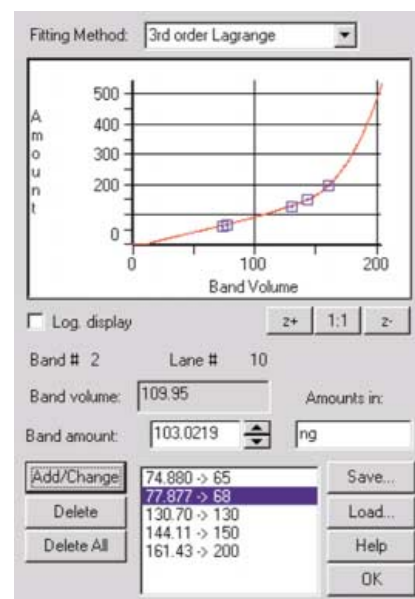
- Find spots automatically by specifying area filter and sensitivity tolerances to sort out actual spots from background noise.\*
- Automatically fill a regular array even if some spots are not found.\*
- Create a quantitative calibration curve.
- Display data in two tabular or graphical formats.
- Evaluate statistical data.
- Group cells into blocks with a template with automatic averaging and analysis within the blocks.
- Show results quickly with color-coded flags.

All graphic and data presentation tables may be printed or exported to other applications. A flexible data table reports the results in the units you choose — Rf, molecular weight, mass amount, integrated optical area or peak height. For convenience in making inter-lane comparisons, band information can be arranged in rows of equal mobility.

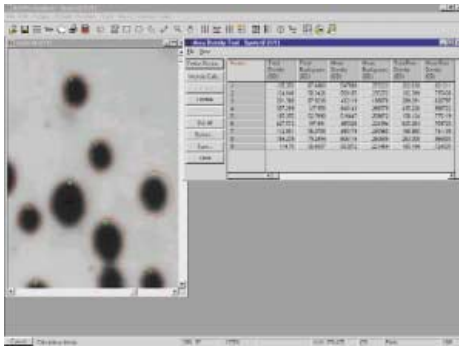
## QUANTITATE...

### QUANTITATE IN RELATIVE OR ABSOLUTE AMOUNTS

- Automatically calculate the mass in each band in the lane.
- Select as a standard a single lane, a single band or an internal standard band across all lanes.
- Use multiple standard bands (even from multiple lanes) in your gel to construct a calibration curve.
- Select Lagrange or polynomial curves up to third order for data fitting.
- Calibrate absorbance reproducibly with optical density step tablets.



Amount Calibration Curve



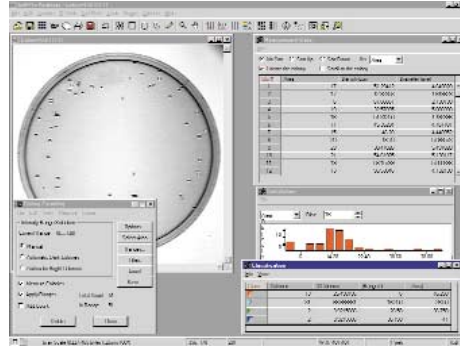
Area Density Data Windows

**AREA DENSITY\***

- Free form or auto-trace definition of spots of interest.
- Extensive table of measurements and measurement statistics.

**COLONY COUNTING\***

- Full complement of automatic and manual spot finding.
- User may edit, add, split, or merge spots.
- Numerous filtering and measurement options.
- Extensive table of measurements and measurement statistics.
- Automatic classification by user criteria.

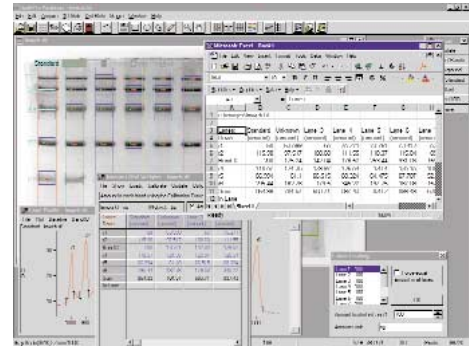


Colony Counting Data Windows

**AUTOMATE...**

**TAKE ADVANTAGE OF THE WINDOWS ENVIRONMENT**

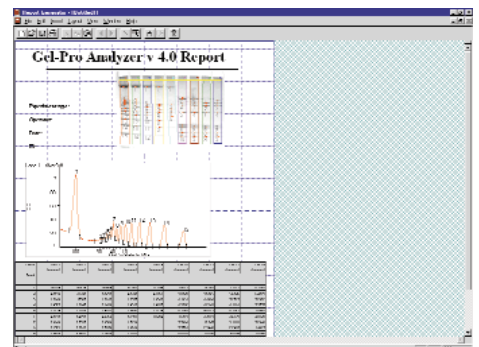
- Choose the printer(s) to meet your needs — from full color to 256 gray level Postscript.
- Copy and paste both text and images. You can create composite gel images from multiple sources and analyze the lanes and bands as a single experiment.
- Information in tables and lane profile graphs can be copied to the clipboard and pasted into other Windows applications for reporting and publication.
- Use Dynamic Data Exchange (DDE) to transfer your data quickly into Excel spreadsheets. This convenient feature allows you to use Excel's capabilities for analysis, database and graphing for special analysis and reporting requirements.



Information Display, Output & Export (including DDE) According to User Definitions

**REPORT...**

- The Report Generator, a mini-desktop publishing utility, lets the user build templates and create custom reports with all images and data analysis automatically embedded.



Custom Report

**HEADQUARTERS**

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