

## Product Specification:

# TotalLab™ Quant v11

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## 1D Analysis Module

### General

- Fully automatic, single button press complete image analysis within area of interest if required
- Instant access to refinement of any analysis step
- Alternative step-wise image analysis for each step
- Facility to load and save user preferences, including parameters and display options, prior to analysis
- Automatic PDF report generator
- Ruler options to display lane names, numbers and MWs

### Multiplex Analysis

- Create multiplex gels from up to 4 channel images
- Create lanes across all channels
- Measurement results for each channel in all tables
- Propagate Molecular Size results across channels

### Lane Creation

- Automatic lane detection
- Export and import of lane templates
- Manual lane detection
- Multi-tier analysis
- Move, resize and bend multi-box
- Move, resize and bend individual lanes
- Add grimaces to account for band distortion
- Delete lanes

### Background Subtraction

- Automatic methods
  - Rolling ball
  - Rubber band
  - Minimum profile
  - Valley to valley
  - Lane edge subtract
- Manual methods
  - Image rectangle
  - Image stripe
  - Manual baseline

### Band Detection

- Fully automatic band detection
- Adjustable peak parameters:

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- Minimum peak
  - Noise reduction
  - % max peak of lane or gel
- Band edge detection methods:
  - Single edge
  - Automatic detection
  - Fixed width
  - % peak
- Manual editing of peak and edge detection in image and lane profile windows
- Snap to peak editing
- Automatic band measurements
- View band measurements in measurements table
- Wide range of data fields to display in measurements table
- Histograms for viewing band data
- View multiple lane profiles either stacked or overlaid
- Export lane profile information
- Edit Band Name and display on Image and in table

### **Profile Deconvolution**

- Fit Gaussian curves to profile
- One Gaussian per band
- Manual adjustments of Gaussian
- FWHM (Full Width Half Max) measurement of bands

### **Molecular Size / pI Calibration**

- Library of standards
- Add new standards
- Edit existing standards
- Automatic assignment of standard bands
- Propagation by Rf between standards
- 6 curve fitting methods
- MWs automatically displayed in measurements table
- pI standards can increase or decrease

### **Quantity Calibration**

- Range of methods to quantify:
  - Selected bands
  - Individual lanes
  - Average of selected bands
  - Total of selected bands
- Manually assign known values to bands
- Range of calibration units
- View interpolated and extrapolated values in measurements table

## **Toolbox Module**

### **Multiplex Analysis**

- Create multiplex images from up to 4 channel images
- Analyse areas across all channels
- Measurement results for each channel in all tables

### **General**

- Analyse an image using generic tools
- Lines category options:
  - Line

- Polyline
- Spline
- Freehand
- Areas category options:
  - Rectangle
  - Polygon
  - Ellipse
  - Closed spline
- Grid tool
- Auto trace tool for object detection
- Selection tool for easy shape selection / deselection

## Editing

- Hide / display objects
- Simple grouping of multiple objects to be manipulated as single object
- Move handle to new location
- Delete selected feature
- Delete all features

## Background Subtraction

- Automatic methods
  - Local average
  - Local median
  - Histogram peak
- Manual method
  - Image rectangle / ellipse

## Additional features in Toolbox

- Annotate image
- Objects can be given names and comments
- Wide range of data fields to display in measurements table

## Array Analysis Module

### Multiplex Analysis

- Create multiplex arrays from up to 4 channel images
- Analyse areas across all channels
- Measurement results for each channel in all tables

### Grid Definition

- Automatic grid detection
- Grids can be exported to and imported from a file
- Choice of 3 spot shapes:
  - Circle
  - Square
  - Slot
- Define spot diameter prior to grid creation
- Detects grids up to 1,536 spots
- Standard grid types supplied
- Create new grid formats
- Edit existing grid types
- Resize grids
- Adjust for skewed images
- Delete selected grid

### Spot Editing

- Reposition spots

- Resize spots
- Make changes to individual spots, groups of spots or entire grid
- Spot properties dialog
- Spot label field

### **Spot Measurement**

- Volumes automatically calculated following grid detection
- Data displayed in measurements table
- Measurements table can display:
  - Current grid
  - Selected spots
  - All spots
- Dynamic updating of tables
- Wide range of data fields to display in measurements table
- Show/hide spot numbers
- Select spots for negative controls
- Select spots that will not be measured

### **Background Subtraction**

- Automatic methods
  - Spot surface minimum
  - Spot edge average
- Semi automatic methods
  - Negative control
  - Image rectangle

### **Normalisation**

- Choice of normalisation units
- Single click operation
- Normalise to single or group of spots
- Normalise to spot group average or collective volume

### **Presence/Absence Flagging**

- Automatic flagging based on estimate of threshold
- Manual setting of threshold
- View results in measurements table
- Colour overlay of image to view flagging results

## **Colony Counting Module**

### **Spot Detection**

- Define circular or rectangular area of interest
- Easy control slider bars for sensitivity and operator size
- Initialise sensitivity option
- Advanced parameter settings for sensitivity, noise, operator size and background
- Automatic splitting function
- Total count and spot data automatically displayed in measurements table
- Wide range of data fields to display in measurements table

### **Editing**

- Draw, erase, delete or split features
- Adjustable pen size for drawing or erasing
- Renumber features
- Delete all features

### **Background Subtraction**

- Methods available:
    - Image rectangle
    - Mode of non-spot
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## Additional Features in TL100

- Supports multiple image formats:
  - .tiff
  - .gel
  - .jpg
  - .bmp
  - .gif
  - .png
  - .img (Fuji format)
- Access to all analysis functions in “wizard-style” interface
- Image editor tool accessible from any module for image manipulation including:
  - Crop
  - Rotate
  - Filter
  - Flip
- Storage of image properties and image edits performed using the image editor
- On-the-fly recalculation after all editing
- Invert intensity measurements facility
- Simple data transfer to Microsoft Excel, clipboard or file
- Comprehensive Help menu and tutorial files
- Context-specific help panes
- Tool tips on all features
- Adjust contrast/brightness/colour of image
- Comprehensive and customisable image annotations
- Customisable image and table display options
- User-definable colour display options
- Zoom control for image viewing
- Magnify tool
- Panning tool
- Print preview

## Hardware and Software Requirements

Operating systems: Windows 2000, Windows XP, Windows Vista and Windows 7

(Please note: you require Administrator privileges for installation. To use the software you do not need Administrator privileges).

Processor: 1.4 GHz

Memory: Minimum 256Mb, recommended 512Mb

Free hard disk space: Recommended 5Gb

- Minimum and recommended specifications are important in order to provide good software performance and reduce installation and operational issues.
- A general rule to note is that with running any software the more RAM a system has the better
- For optimal performance in higher end products or where users may be pushing systems to the limit use the “recommended” specifications