About this Manual

This takes you to the *Data and Assay*

Data and Assay Context

In the *Data and Assay*

Switching Between Electrophoretic and Flow Cytometric Assays

The Agilex

- The *electrode cartridge* contains 16 electrodes that fit into the wells of DNA, RNA, and Protein chips. Tw(A)-3c(13.9142 chch el1(r)4TJre)4.8(t)-4.1decte ps.A

Insert the electrode cartridge:

CAUTION

Principles of Nucleic Acid and Protein Analysis on a Chip

The electrophoretic assays are based on traditional gel electrophoresis principles that

Preparing Samples and Chips for Electrophoretic Assays

Before you can fill a chip, you have to prepare the samples. To find out how to prepare the

- Protect dye and gel-dye mix from light. Remove light covers only when pipetting. Dye

Contents

The dialog box is closed.

- If you selected *Select file in Data Context*, you are automatically taken to the *Data and Assay* context, where you can view, analyze, and evaluate the results of your chip run (see “Displaying the Measurement Results (Electrophoresis Tc(j/F5 1 e5it2873 0 TD0.0004

Stopping a Chip Run

You can stop a chip run at any time, for example,

-

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4. A sizing ladder (see the example electropherogram below), which is a mixture of DNA fragments of known sizes, is run first from the ladder well. The concentrations and sizes

NOTE

Data Analysis: Protein

6.

7.

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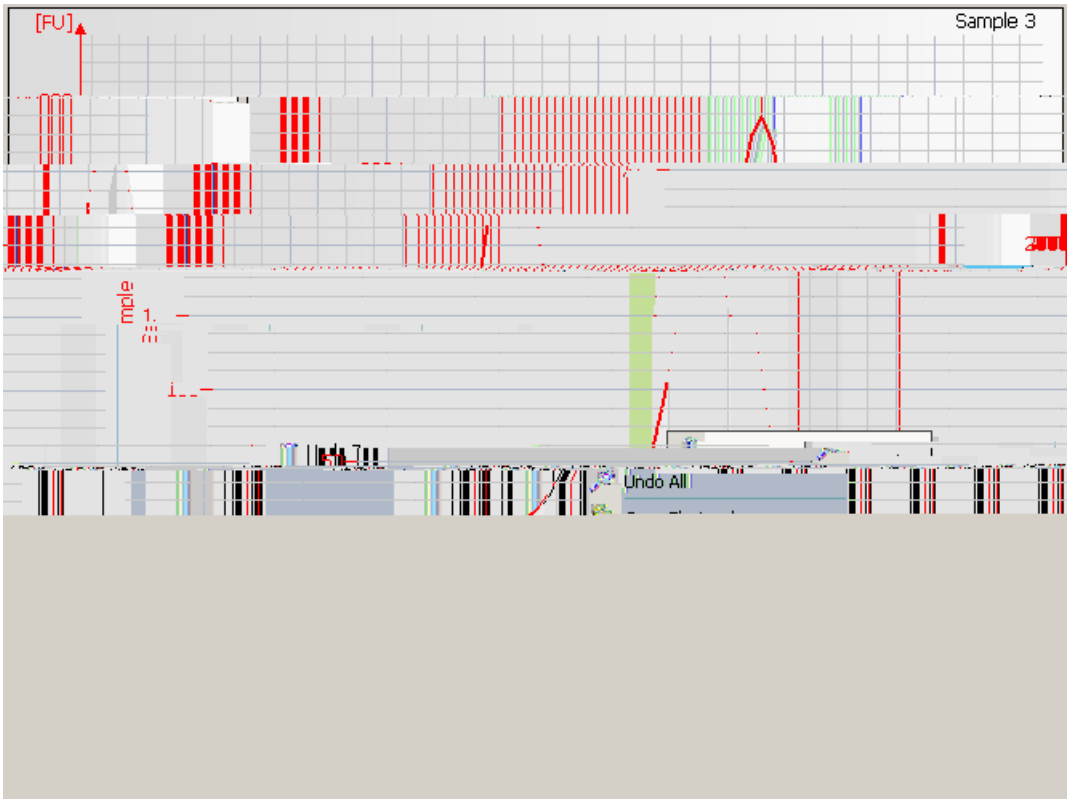
Manual Integration

2 Right-click on the electropherogram and select *Add Peak* from the context menu.



9 Select the *Gel*

NOTE

Please refer to the function reference in the *Help Pane*

Cell Detection with the Agilent 2100 Bioanalyzer

LabChip technology allows cell measurements by integrating cell flow, hydrodynamic focusing, and fluorescence detection into a microfluidic chip. A cell suspension can be

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By setting a marker on the blue histogram, you can define the blue fluorescence range that must be met for a cell to be considered for the red histogram7-4.4g nge

How to Configure Markers

You can change the color, name, and the upper and lower limits of the marker:

1 Double-click the desired marker.

– OR –

How to Overlay Histograms

The histogram that displays the gated data can show the following data:

Marker

3 Enter fluorescence values for the left, right, bottom, and top side of the rectangle to

Click *No* to create new regions that are not “connected”. The region will be inserted in

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The values are displayed in the result table, each histogram has its own table.

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Importing Data

2100 expert allows to reprocess assays and chip run files from the *Bio Sizing* and *Cell Fluorescence* applic.10 0.is edp

Importing Data Analysis Setpoints

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Exporting Data

Note the following:

-

Exporting Result Flagging Rules

Contents

How to Print a Chip Run Report

wells you would like to print, following the instructions as shown on the dialog box.
Also refer to “Print (Electrophoresis)” on page 531 / “Print (Flow Cytometry)” on1954.4 19.7(

Showing and Hiding Columns

To add the *Aligned Migration Time* column to the table:

1 Right-click the heading row of the table.

2 From the context menu, select

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Running Instrument Diagnostics

2100 expert provides several tests to check proper functioning of the bioanalyzer

NOTE

With bioanalyzer model G2938A only diagnostic tests in combination with the electrode cartridge can be performed.

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Gel Color	Opens a submenu from which you can select a predefined

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Overlaid Samples Lets you overlay electropherograms from multiple wells

Overlaid Samples

Result flagging menu item	Function
Load Rules	Opens a system dialog box allowing you to load a set of

Log Book Menu

Contents

If an assay is already selected for an instrument, the assay name appears instead of the instrument name.

Help Menu

Online Store	Takes you to the

Opens a system dialog box allowing you to save the gel graph (all

Electropherogram View

Shows / hides the data points used to generate the electropherogram.

Button	Function
	Select an item from this list to switch to another context.
	Brings up the *Open*

Colors the dots inside the selected region using the color of the region bordeu(co)-4.3(e8)d.-1.2242 TD5776005 Tc0510015 Tw[(egi)-7Hghls6

Data and Assay Context – Result Flagging Toolbar

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The following controls let you select, start, and control a chip run.

Control	Meaning
COM Port	Allows you to select a bioanalyzer by specifying the number of the serial port the instrument is connected to. You can also select *Demo*, if you want to run a demo assay without using a bioanalyzer.

AssAllo74eeelection

Raw Signals Sub-tab

During an *electrophoretic* chip run, the *Raw Signals* sub-tab shows an electrob-am

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System Leak Test	Checks if the bioanalyzer is able to maintain a vacuum. Produces a test pressure of -100 mbar and monitors for

Command buttons

Test Properties

In this area, you can see details (such as name, description, limits and requirements) on the test currently highlighted in the *Available Tests* list.

Access

The *Chip Summary* tab is available in the *Data and Assay* context.

Elements

NOTE

Sample Information sub-tab (flow cytometric assays)

The sample table shows you the main measurement results and allows you to enter

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Access

The *Gel* tab is always available

- in the *Data and Assay*

The analyzed data depends on the assay type:

- **DNA**

  Default table columns are:

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Fragment Table sub-tab (RNA assays only)

For each peak (rows), the table shows results for the predefined/specific fragments.

Access

The *Electropherogram* tab is always available

- in the *Data and Assay*

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Single View

Access

The *Histogramcess*

Dot Plot Tab (Single / Grid View)

Purpose

Dot plots show single events (cells), displayed as dots. In the coordinate system, the red

Access

The *Dot Plot* Sgl0-71.e 1Ta he

NOTE

Log Book Tab

Purpose

The *og pose*

Source	Source that triggered the run log entry: “Reader”, “Instrument” or “User Interface”.

The run log table is saved as part of the chip data (.xad) file, and you cannot delete it.

Context Menu

Right-clicking on the run log table opens a context menu:

Buttons:

“

Open

Purpose

Histogram Images	Exports the histogram images of all samples, two images (red and blue histogram) per sample.

Export Directory settings:

Buttons:

Electrophoresis Data Export tab

Result Tables

Cancel	Exits the dialog box without printing.
Print/Save	If you selected any option under *Save To File*, the button is labeled *Save*, otherwise *Print*. *Print* starts printing. *Save* starts writing the printout to .pdf and/or .html files.

Prin

Save To File

PDF Redirects the printout to a .pdf file. Clicking on the ... button opens a

System Log Viewer

Purpose

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- G2947CA – Agilent 2100 bioanalyzer electrophoresis set

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Data Filtering

The first step *2100 expert* takes in analyzing raw data is to apply data filtering. Data

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Peak Height

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