Miltenyi Biotec



MACSQuant® Instrument short instructions

Multisampling and autolabeling

Before using the instrument for the first time, read the MACSQuant Instrument user manual and MACSQuantify Software user manual.

Introduction

Use the MACSQuant Analyzer 10, VYB, or Analyzer 16 in combination with the MACS MiniSampler Plus and one of the Chill Racks to measure multiple samples. Use the MACSQuant X in combination with the MACSQuant X Orbital Shaker and the MACSQuant X 5 Rack or appropriate well plates to measure multiple samples.
Different sample racks are available, allowing for processing up to 96 (MACSQuant Analyzer 10, VYB, or Analyzer 16) or 384 samples (MACSQuant X) in a single batch. Different types of cell samples or analysis panels can be configured on the same rack. Samples can be automatically labeled with fluorochrome-conjugated antibodies, cocktails, or fluorescent dyes prior to measurement. Use the MACS Universal Reagent Rack for labeling samples with up to four reagents. Miltenyi Biotec reagents can be entered automatically using the 2D barcode reader.

Commonly used sample racks

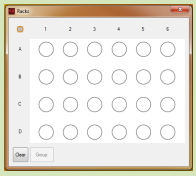
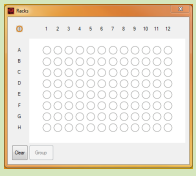
	Chill 5 Rack	Chill 96 Rack
Slots	24×5 mL	96-well microtiter plate
Corresponding MACSQuantify **Racks** window		

Table 1: Common sample racks used for multisample processing on the MACSQuant Instrument.

Selecting a rack

1 Go to the **Experiment** tab.
2 Select the required rack type from the **Rack** drop-down menu.
3 Click on the **Rack** icon in the toolbar to configure the rack positions for multiple samples.

Sample rack configuration

1 Click on the sample position(s) or tap on the screen. An entire row, column, or table can be selected. To select multiple samples, do one of the following. Right-click on:

- the upper left circle for the entire rack
- a column number to select the entire column
- a row letter to select the entire row

2 To program sample positions, ensure that all positions to be programmed are selected (●/○). All samples can be programmed at the same time, or each position or group of positions can be programmed individually.
3 Click on a position to switch between ●/○ and ●/●.
4 Use the **Experiment** tab to specify the **Experiment**, **Flow rate**, and **Pickup and measure** options.
5 Ensure that all sample positions have the correct associated programming. To view the experiment settings for all sample positions, click **View > Experiment table**.
6 Refer to the MACSQuant Instrument short instruction **Setting up an acquisition** or to the MACSQuantify Software user manual for more information.
7 Refer to **Table 2** for an overview of rack configuration and to the user manual for more information.

Sample rack color scheme

Clear	○	Default open circle indicates no operation.
Closed green circle (gray for the colorblind format)	● ●	Sample selected for measurement. Click on circle to select for editing.
Closed green circle with orange rim (gray with orange rim for the colorblind format)	● ●	The orange rim indicates that the sample is selected and activated for editing.
Closed yellow circle	●	Processing of sample has started, e.g., sample has been labeled and incubation is in progress.

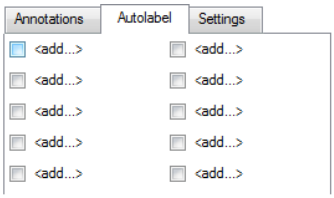
Closed blue circle with orange rim		Measurement is in progress.
Closed gray circle (green for the colorblind format)		Measurement has been finished.

Table 2: Sample rack configurations (default setting and adjusted for colorblind users)

Autolabeling

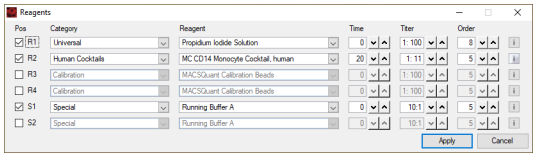
1 Go to the **Experiment** tab and click the **Autolabel** tab.

2 Select any **<add…>** box to open the **Reagents** window.



3 Select the reagent and reagent rack position from the drop-down menu.

4 Optional: Scan the Miltenyi Biotec Reagents with the 2D barcode reader to automatically load them into the reagents list.



Propidium iodide (PI) is listed in the **Universal** category.

5 To dilute samples automatically prior to measurement, select a buffer dilution from **S1** or **S2**. A total of four reagents plus dilution with buffer can be added.

6 Adjust the incubation time, titer, and order as required. MACS MC Cocktails and fluorochrome conjugated antibodies have pre-defined time and titer. The order is important if several reagents are added to one sample. Reagents will be added starting with the lowest number.

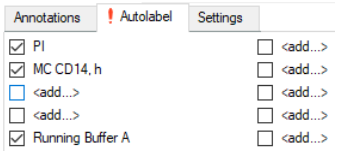
Changed titers or times will appear in red font.

7 Click **Apply** to confirm.

8 Go to the **Rack** window to select a well for autolabeling.

9 Go to the **Experiment** tab and click the **Autolabel** tab.

10 Select the reagent(s) to be added to the selected wells.



11 Repeat for other samples and reagents if required.

A red exclamation mark indicates that autolabeling is activated.

If using MC Cocktails for autolabeling, it is possible to assign a pre-defined analysis template to a well. Select the corresponding Analysis Express Mode in the **Experiment** tab in the **Settings** tab.

Reviewing experiment settings

All experiment settings can be reviewed in the experiment table.

1 Go to **View > Experiment table**.

2 Switch between **Acquisition**, **Annotations**, **Autolabel**, or **Settings** to review the respective settings.

Before starting the measurement, check the following:

- The instrument is correctly calibrated.
- The correct instrument setting including compensation is selected.
- Experiment definitions are correctly assigned to each sample position and that each sample is correctly positioned on the Chill Rack.
- Sufficient quantities of reagents and buffers are provided. Ensure that the waste bottle is empty.
- Reagents are positioned correctly on the Universal Reagent Rack.
- Caps of the reagents are removed.

Are you in need of additional assistance?

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