

MACSQuant® Instrument short instructions

Autolabeling and multisampling

Description

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

If running a multisample experiment, use the MACS MiniSampler Plus in combination with one of the Chill Racks. Five different kinds of sample tube racks are available, allowing for processing up to 96 (MACSQuant 10 or VYB) or 384 (MACSQuant X) samples in a single batch. Several different types of cell samples or analysis panels can be configured on the same rack. Samples can be automatically labeled with fluochrome-conjugated antibodies, cocktails, or fluorescent dyes prior to measurement. Use the MACS Reagent Rack 4 for labeling several samples with up to four different reagents. The MACS MiniSampler can be configured to perform autolabeling and measurements from any sample position. Miltenyi Biotec reagents can be entered automatically using the 2D code reader.

Commonly used Chill Racks

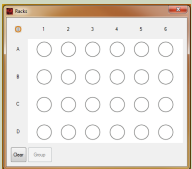
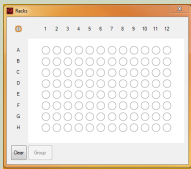
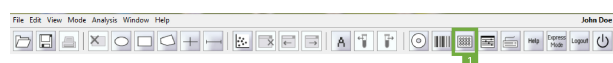
	Chill 5 Rack	Chill 96 Rack
Slots	24 × 5 mL	96-well microtiter plate
Corresponding MACSQuantify Rack window		

Table 1: Common Chill Racks used for multisample processing on the MACSQuant Instrument.

Chose a rack



- 1 Go to the **Experiment** tab.
- 2 Select the required rack type from the **Rack drop-down list**, or click on the **Rack button** (1) in the toolbar open the **Racks** window.
- 3 The corresponding rack template is displayed in the lower section of the **Experiment tab** window and in a window in the middle of the screen.

Sample rack configuration

- 1 Click on the sample position(s) using the left mouse button or touch screen. An entire row, column, or table can be selected. To select multiple samples, 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 by a given strategy are activated (●/●). All samples can be programmed at the same time, or each position or group of positions can be programmed individually.
- 3 Use the **Experiment** tab to specify the **Experiment**, **Flow rate**, and **Pickup and measure** options. Verify proper annotations as well as autolabeling reagents and designations.
- 4 Left-click or touch screen to switch between ●/● and ●/●.
- 5 Ensure all sample positions have the correct associated programming. To view the experiment settings for all sample positions, click **View > Experiment table**.
- 6 Refer to table 2 for an overview of rack configuration, and to the user manual for more information. Use the **Experiment** tab to change parameters of the experiment (flow rate, uptake volumes, etc.) and **Custom** (instrument settings, analysis templates) or **Express** (MC Cocktail analysis templates) settings.
- 7 Refer to the MACSQuant Instrument Short instructions **Setting up an experiment**, or to the user manual for more information.

Sample rack positions

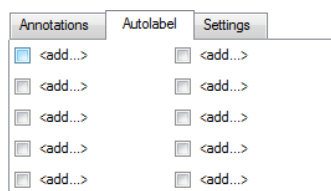
Sample rack color scheme

Clear		Default open circle indicates no operation.
Closed green circle (grey for the colorblind format)		Sample selected for measurement. Left-click on circle to select.
Closed green circle with orange rim (grey with orange rim for the colorblind format)		Sample selected and activated for editing. Single click on circle to activate. The orange circle indicates that the sample is activated for editing.
Closed yellow circle		Processing of sample has commenced, e.g., sample has been labeled and incubation is underway.
Closed blue circle		Measurement in progress.
Closed gray circle (green for the colorblind format)		Measurement finished.

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

Autolabeling

- 1 If autolabeling is required, add the relevant reagents by clicking on an **<add...>** checkbox. Alternatively, go to **Edit > Reagents** to open the **Reagents** window.



- 2 Select the reagent and reagent rack position from the drop-down list.

Note: Propidium iodide (PI) is listed under **Universal**.

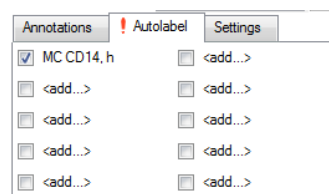
- 3 To dilute samples automatically prior to measurement, select a buffer dilution from S1 or S2.
- 4 Check and adjust the incubation time, titer, and order as needed. Note that MACS MC cocktails and fluorochrome-conjugated

antibodies have predefined time and titer. Order is used if several reagents with different incubation times are added to one sample (e.g. antibody and PI).

- 5 A total of four reagents plus buffer A, B and C can be loaded. Once complete, click **Apply** to confirm.
- 6 In the **Autolabel tab**, see the uploaded reagents available to apply to the rack positions.

Configure rack positions for autolabeling

- 1 With the designated rack open, select and activate wells for autolabeling (/).



- 2 Repeat for other samples and reagents if required.

Note: If using MC Cocktails for autolabeling, a predefined analysis template can also be assigned to the wells using Express mode under the **Settings tab**.

Review experiment settings

Before starting the run check that:

- Experiment definitions are correctly assigned to each rack coordinate 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.
- The reagents have been imported and assigned to a position on the MACS Reagent Rack 4.
- The instrument is correctly calibrated and compensated.

All experiment settings can be reviewed in an experiment table.

- 1 Go to **View > Experiment table**.
- 2 Switch between **Acquisition**, **Annotations**, **Autolabel** or **Settings** to review the respective settings.

Are you in need of additional assistance?

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