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

These short instructions are valid for the MACSQuantify Software 3.1 and later.

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 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 experiment. 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 acquisition. Use the Universal Reagent Rack for labeling samples with up to four reagents. Miltenyi Biotec reagents can be entered automatically using the 2D barcode reader.

## Selecting a rack

1 Click the **Experiment** tab.
2 Select the required rack type from the **Rack** dropdown list.

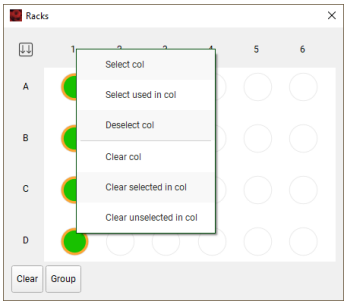
Only calibrated racks and related ones are shown in the dropdown list.

A scheme of the selected rack is shown at the bottom of the **Experiment** tab.

## Programming sample positions

Program sample positions in the **Experiment** tab. Selected samples indicated by an orange rim can be edited. Selected samples can be programmed at the same time, or each position or group of positions can be programmed individually.

1 Select the sample position(s).
2 Optional: To select an entire column or row, right-click a number or letter.




3 Adjust the **Experiment**, **Flow rate**, and **Pickup and measure** options.
4 To check the experiment settings for all sample positions, go to **View > Experiment table**.
Refer to the MACSQuant Instrument short instructions **Setting up an acquisition** or the **MACSQuantify Software user manual** for more information.
See **Table 1** for an overview of the sample position color.

## Sample position color code

| | | |
|---|---|---|
| Clear | | **Default open circle indicates no operation** |
| Closed green circle | | **Sample used for acquisition. Click circle to select for editing** |
| Closed green circle with orange rim | | **The orange rim indicates that the sample is selected and activated for editing** |
| Closed yellow circle | | **Processing of sample has started, for example, sample is diluted and incubated** |
| Closed blue circle with orange rim | | **Acquisition is in progress** |
| Closed gray circle | | **Acquisition has been finished** |

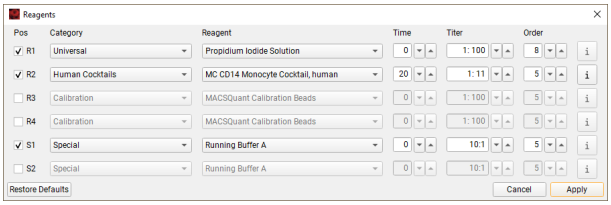
**Table 1**: Sample position color code

## Autolabeling

1 Click the **Experiment** tab.
2 Select a multisample rack type.
3 Click the **Autolabel** tab.
4 To open the **Reagents** window, select any **<add...>** checkbox.




5 Select the reagent and Universal Reagent Rack position from the dropdown list of the **Reagents** window.
6 Optional: To automatically add the Miltenyi Biotec reagents in the **Reagents** list, make a scan of them with the 2D barcode reader.




Annotations are automatically set when using selected Miltenyi Biotec reagents in the **Settings** tab.

7 Optional: To dilute samples automatically by the MACSQuant Instrument before an acquisition, select a buffer dilution from **S1** or **S2**. A total of four reagents plus dilution with buffer can be added.
8 Adjust the incubation time, titer, and order as required. MACS MC Cocktails and fluorochrome conjugated antibodies have predefined times and titers.

The order is important if several reagents are added to one sample. Reagents are added starting with the lowest number. The titer defines the dilution of the sample based on the sample volume.

Titers or times that have changed are tracked in red.

9 Click **Apply** to confirm.
10 To select one or more wells for autolabeling, open the **Rack** window.
11 Click the **Experiment** tab and select the **Autolabel** tab.
12 Select the reagent(s) to be added to the selected wells.
A red exclamation mark indicates that autolabeling is activated.



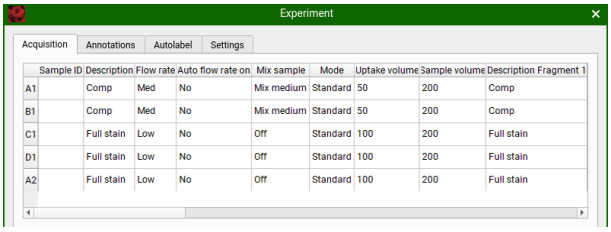

13 Repeat the action for other samples and reagents if required.

It is possible to assign a predefined analysis template to a sample position when using analysis cocktails such as CD14 Monocyte Analysis Cocktail, anti-human, for autolabeling. Select the corresponding Analysis Express Mode in the **Settings** tab, for example, MC_CD14_h.

## Reviewing experiment settings

All experiment settings can be reviewed in the experiment table.

1 Click **View** > **Experiment table**.
2 To review the experiment settings, switch between **Acquisition**, **Annotations**, **Autolabel**, or **Settings**.




Before starting the acquisition, check the points that follow:

- The instrument is correctly calibrated.
- The correct instrument setting, including compensation, is selected.
- Experiment definitions are correctly assigned to each sample position and 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.

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