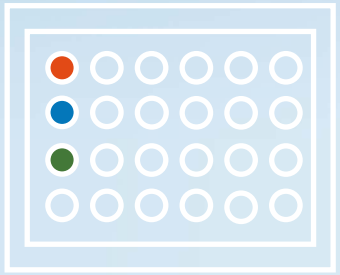
Miltenyi Biotec

autoMACS® Pro Separator

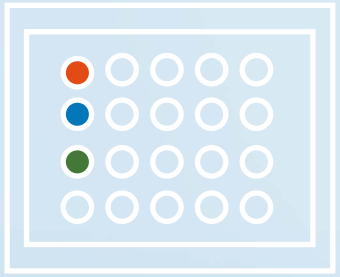
Short instructions

Load samples

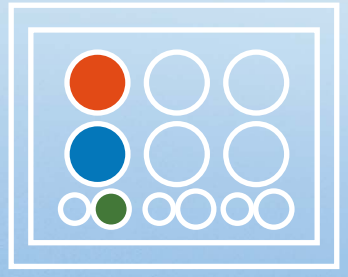
Chill 5 Rack

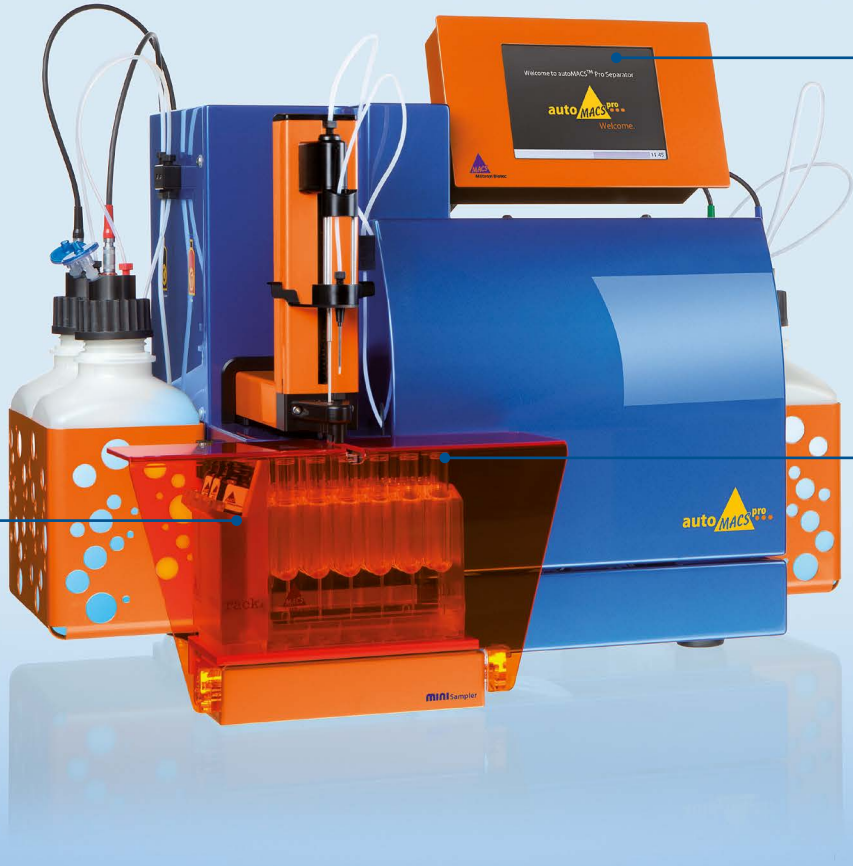


Chill 15 Rack



Chill 50 Rack





Touch to start up

Use the touch screen to program your cell separation procedures.

Scan reagents with the 2D barcode reader

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Short instructions – sample labeling and separation

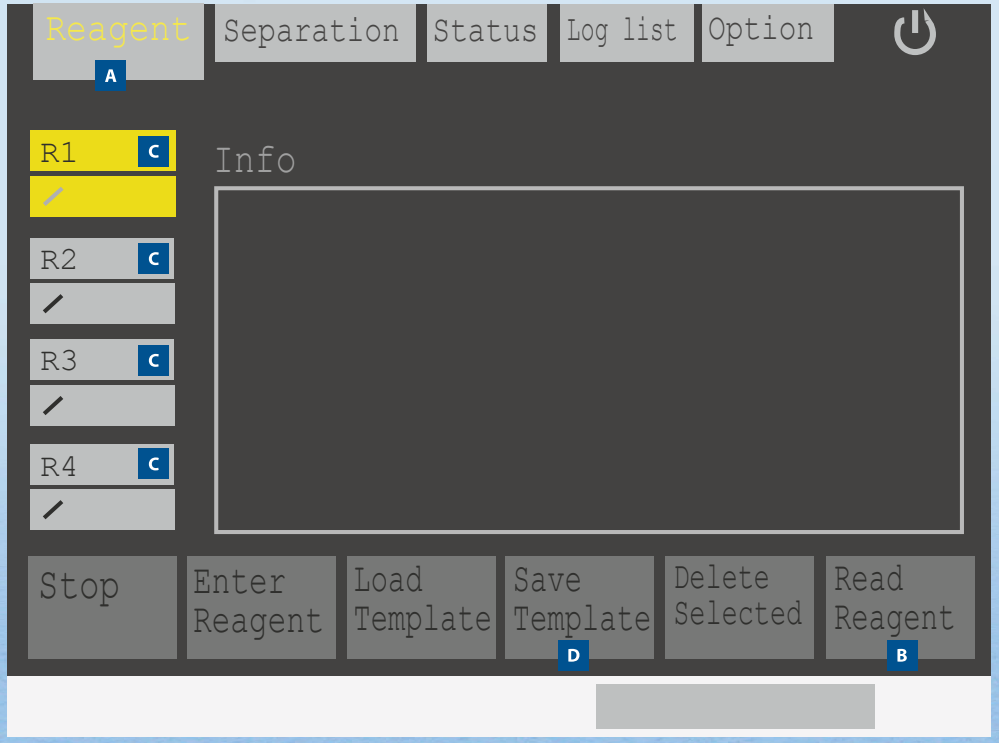
Enter reagents

A Go to the **Reagent** menu and highlight a reagent rack position.

B Press the **Read Reagent** button.
Present a reagent vial in front of the blinking 2D code reader.

C Enter up to four reagents.

D Save as a template if desired.



Define the separation procedure

E Go to the **Separation** menu.

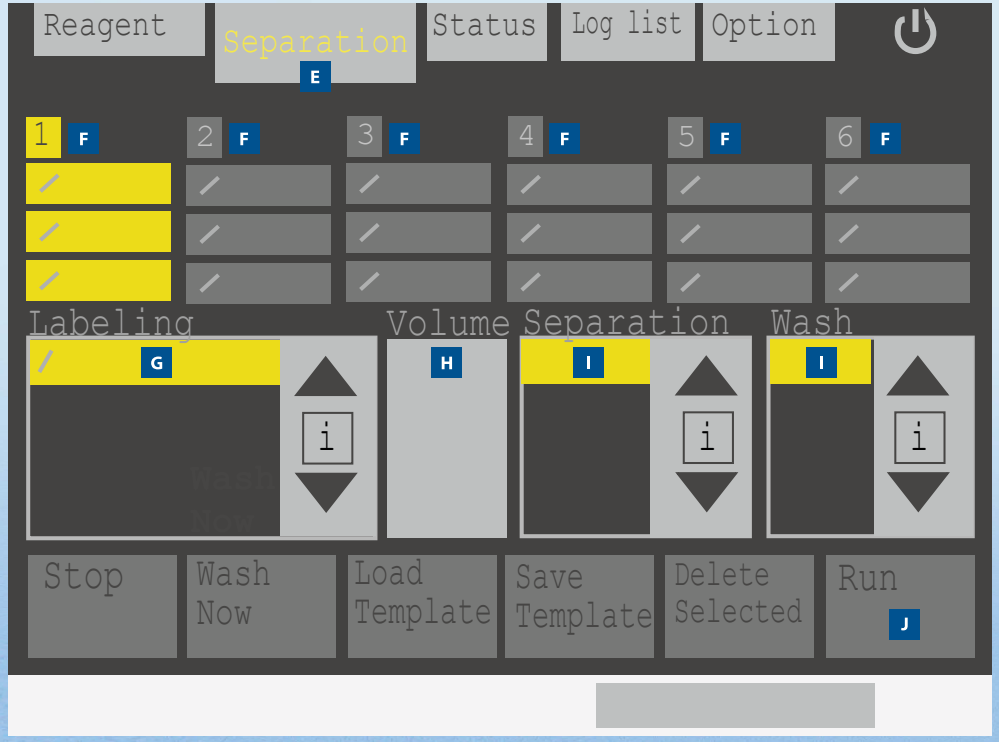
F Highlight one or more samples.

G Select the desired **Labeling** reagent.

H Touch the **Volume** submenu to enter the sample volume.

I Select a **Separation** and a **Wash** program.

J Place reagent vials and sample tubes on the respective racks and press **Run**.



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Short instructions – maintenance

Priming

Prime the instrument after it is switched on:

1 Go to the **Separation** menu and press **Wash Now**.

2 Select **Rinse** and press **Run**.

Cleaning

Before shutting down, clean the instrument:

1 Press the shutdown button at the upper right hand corner of the screen.

2 Select **Yes**.

3 Upon completion of the **Sleep** program, switch off the Instrument using the main power switch on the lower right side of the instrument.

Replace Fluid bottles

1 Take out an empty bottle and unscrew bottle closure counter-clockwise but do not remove it. Do not disconnect the color-coded tubing.

2 Place a fresh bottle into the holder, open it and fasten the bottle closure to the new bottle. Note the color-coding.

Column exchange

1 Open the front door.

2 Ensure that the fluid bottles are filled with solutions.

3 Go to **Option > Special > Col_ex**.

4 Press **Run**. Wait until the instrument prompts you to exchange columns.

5 Pull out the column using both hands.

6 Unscrew first bottom and then top column connector counter-clockwise.

7 Insert a fresh column and fasten it to the column connectors.

8 Press the column back into its slot until you hear a click. Repeat the whole process with column 2.

9 Press **Done**.

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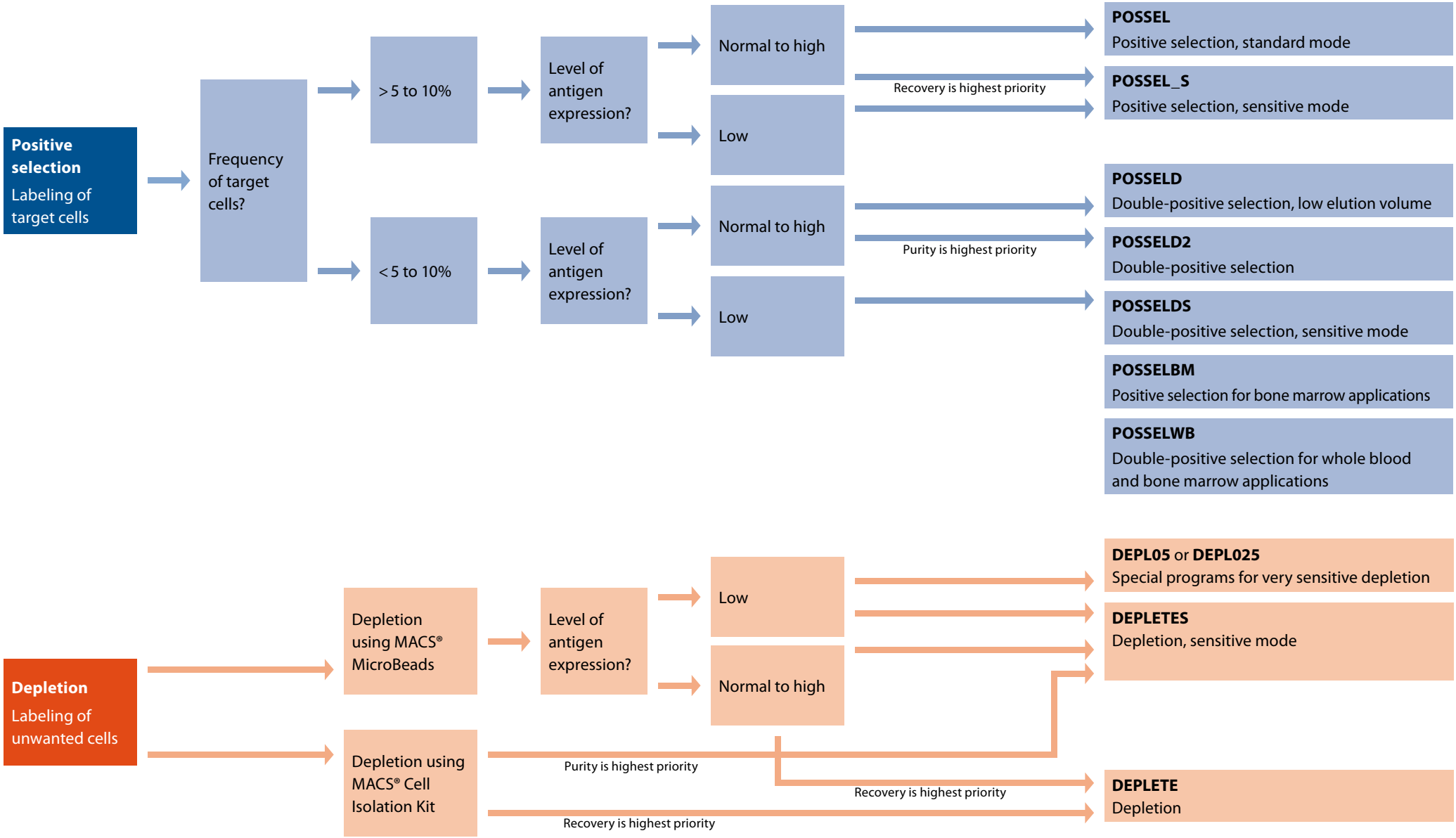
Short instructions – separation strategy



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Short instructions – sample dilution

Cell Separation Reagent	Strategy	No. of reagents	Dilution volume	Autolabeling			
				Minimal volume*	Minimal total cell number	Maximal volume	Maximal total cell number
Chill 5 Rack[1]							
Direct MicroBeads human, rat, non-human primate	Positive selection or depletion	1	10^7 cells per 80 µL	160 µL	2×10^7	1600 µL	2×10^8
Direct MicroBeads, mouse	Positive selection or depletion	1	10^7 cells per 90 µL	180 µL	2×10^7	1800 µL	2×10^8
Whole Blood MicroBeads	Whole blood or bone marrow	1	Original volume	0.25 mL		1 mL	
Cell Isolation Kits	Untouched isolation	2	10^7 cells per 40 µL	160 µL	4×10^7	800 µL	2×10^8
Cell Isolation Kits	Untouched isolation	3	10^7 cells per 30 µL	120 µL	4×10^7	600 µL	2×10^8
Chill 15 Rack[2]							
Direct MicroBeads human, rat, non-human primate	Positive selection or depletion	1	10^7 cells per 80 µL	160 µL	2×10^7	5200 µL	6.5×10^8
Direct MicroBeads, mouse	Positive selection or depletion	1	10^7 cells per 90 µL	180 µL	2×10^7	5850 µL	6.5×10^8
Whole Blood MicroBeads	Whole blood or bone marrow	1	Original volume	1 mL		4 mL	
Cell Isolation Kits	Untouched isolation	2	10^7 cells per 40 µL	160 µL	4×10^7	2600 µL	6.5×10^8
Cell Isolation Kits	Untouched isolation	3	10^7 cells per 30 µL	120 µL	4×10^7	1950 µL	6.5×10^8
Chill 50 Rack[3]							
Whole Blood MicroBeads	Whole blood or bone marrow	1	Original volume	4 mL		8 mL	

[1] Max. number of samples: 6; min. first incubation volume: 0,2 mL; max. final labeling volume: 2 mL
[2] Max. number of samples: 5; min. first incubation volume: 0,2 mL; max. final labeling volume: 6,5 mL
[3] Max. number of samples: 3; min. first incubation volume: 4 mL; max. final labeling volume: 8 mL.
*When working with fewer cells than the necessary minimal volume, resuspend cells in the stipulated minimal volume.

140-002-015.09

Miltenyi Biotec

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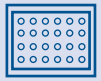
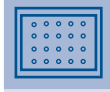
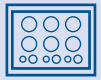
Short instructions

Chill rack specifications

Rack type and symbol	Slots	Maximal number of samples	Manual labeling	Autolabeling	
			Maximal sample volume	Minimal first incubation volume	Maximal final labeling volume
Chill 5 	24×5 mL	6 (5 mL tubes)	2.5 mL	0.2 mL 0.25 mL*	2.0 mL 1 mL*
Chill 15 	15×15 mL 5×5 mL	5 (15 mL tubes)	12.5 mL	0.2 mL 1 mL*	6.5 mL 4 mL*
Chill 50 	6×50 mL 3×15 mL 3×5 mL	3 (50 mL tubes)	50 mL	4 mL*	8 mL*

*Volumes refer to whole blood samples only.

Buffer consumption

Program	Washing Solution	Running Buffer	Storage solution	MACS Bleach Solution	Time
Qrinse	–	48 mL	–	–	1.5 min
Rinse	96 mL	48 mL	–	–	4 min
Clean	96 mL	48 mL	48 mL	–	7 min
Sleep	96 mL	–	48 mL	–	5 min
Safe	96 mL	96 mL		40	21 min
Store	96 mL	–	96 mL	–	8 min
Col_ex	96 mL	96 mL	–	–	6 min

Daily maintenance and rinsing programs

Program	Description	Recommended usage	Duration
Qrinse	Standard short rinse of separation columns and tubing system with Running Buffer	Between separations of frequent cells (>5 %)	1.5 min
Rinse	Rinse of separation columns and tubing system with Washing Solution and Running Buffer	Prior to first separation	4 min
Clean	Rinse of separation columns and tubing system with storage solution, Washing Solution, and Running Buffer	After whole blood and bone marrow applications.	7 min
Sleep	Rinse with Washing Solution followed by filling with storage solution	Before switching off the autoMACS Pro Separator	5 min

Periodic maintenance

Action	Description	Recommended usage	Duration
Column exchange using (**Col_ex** program)	Replacement of separation columns	Every two weeks OR after 100 separations, whichever comes first	6 min
Running the **Safe** program	Decontamination procedure with bleach solution (1% sodium hypochlorite)	Every 3–6 months	21 min
Cleaning the pump syringe	Cleaning of pump syringe (refer to user manual)	Every 1–3 months	
Running the **Store** program	Rinse with Washing Solution, followed by storage solution; replacement of columns with substitutes	Before storing the instrument for a period longer than two weeks	