Miltenyi Biotec

autoMACS™ Pro Separator

Now, high-quality cell separations are even easier!

autoMACS™ Pro Separator

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Walk-away cell sorting of multiple samples

- Automated sample uptake and elution of magnetically labeled and non-labeled cell fractions
- Automated cleaning of tubing as well as uptake and outlet ports
- Optimized sensor-controlled processes

Easy operation

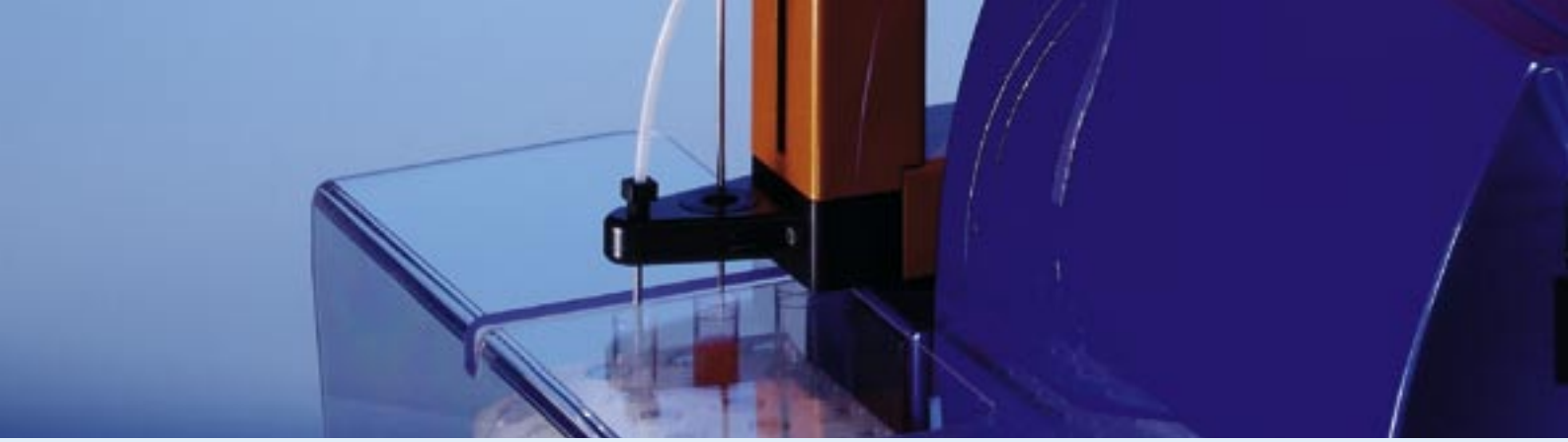
- Intuitive screen menus
- High-resolution color touchscreen
- Ten pre-set separation programs allowing to use more than 200 MACS® Cell Separation Reagents
- Convenient rinsing and maintenance programs
- Optimized ready-to-use MACS® Buffers

Standardized procedure

- Highly reproducible results
- Excellent purity, recovery, and cell viability
- Based on renowned MACS® Technology

autoMACS™ Pro Separator

The autoMACS™ Pro Separator is a benchtop automated magnetic cell sorter for the processing of multiple samples. The MACS® MiniSampler, attached to the autoMACS Pro Separator, can hold one of three different MACS® Cooling Tube Racks containing up to six samples. The cell separation is programmed using the touchscreen and intuitive screen menus. Before starting the process, the instrument automatically checks the status of the autoMACS Columns as well as the fluids required for cell separation and rinsing of the system. Upon starting the cell separation program, the instrument takes up the sample for magnetic separation. The magnetic separation is carried out automatically—depending on the separation program over one or over two columns. The non-labeled and the labeled fractions are eluted and can both be used for a wide variety of downstream applications. Subsequently, the instrument will automatically proceed to the next sample. Between cell separations, the fluid system is cleaned automatically.



autoMACS™ Pro Separator

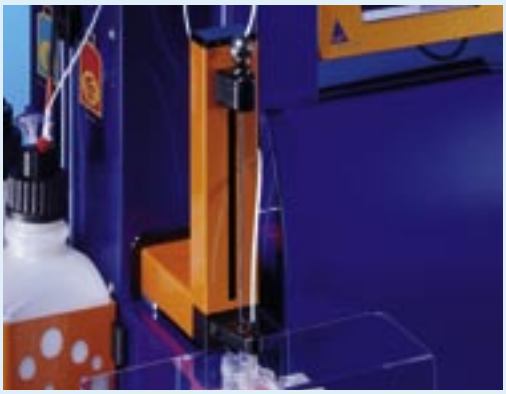
Walk-away cell sorting of multiple samples

MACS® MiniSampler and Cooling Tube Racks

- Processing of up to 6 samples
- Three different tube racks for sample volumes from 0.2 mL to 50 mL
- Optional sample cooling
- Transparent lid for maximum protection of samples

Automated sample handling

- Automated sensor-controlled sample uptake and measurement of sample volume
- Defined output volumes
- Elution of magnetically labeled and non-labeled cell fractions
- Automated washing of the fluid system
- Safe operation through sensor-controlled sample handling



Optimized sensor-controlled processes

- Sensor-controlled detection of fluid status
- Different colors of bottle illumination indicate instrument status
- Ready-to-use MACS® Buffers

autoMACS™ Pro Separator

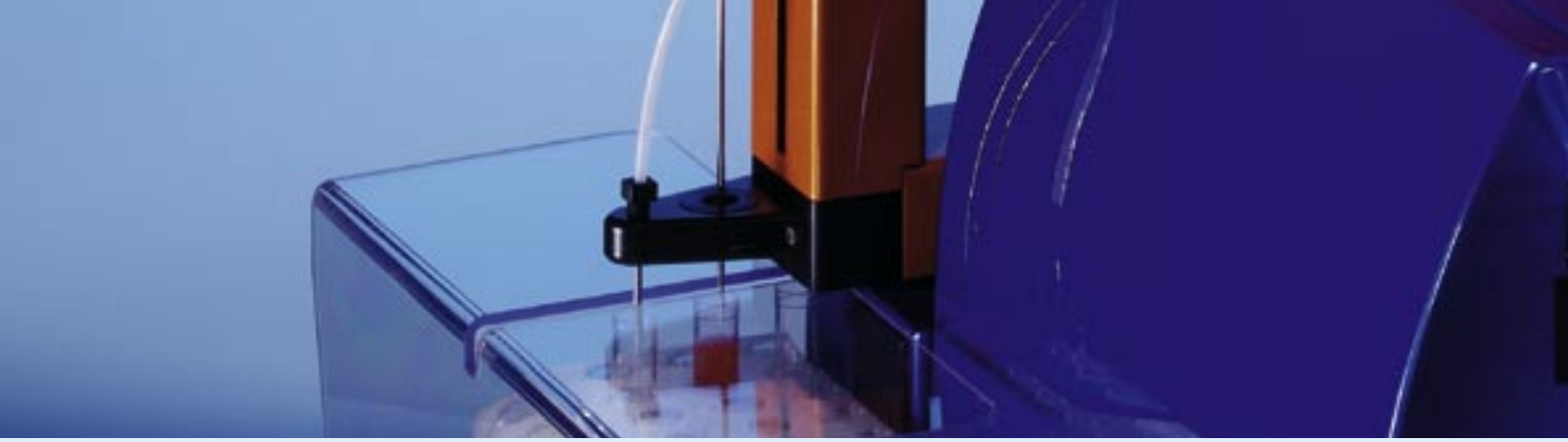
Convenient instrument operation and monitoring

Easy operation

- High-resolution touchscreen and intuitive screen menus for convenient programming
- Ten pre-set cell separation programs for positive selection and depletion, rare and frequent cells, as well as whole blood applications
- Optimized separation programs can be combined with virtually any MACS® Cell Separation Reagent
- Optimized washing programs

Sensor-controlled monitoring of the system status at all times

- Monitoring of buffer supply
- Display of column status
- Automatic detection of sample rack type and the MACS® MiniSampler
- Monitoring of separation and washing processes



autoMACS™ Pro Separator

Versatile automated cell separation

Benefits of the autoMACS™ Pro Separator

Wide range of applications

- For virtually any cell type from any species
- Separation of rare cells, such as $CD34^+$ or $CD133^+$ stem cells, antigen-specific T cells, $CD4^+CD25^+$ regulatory T cells, as well as dendritic cells and their subtypes
- Separation of frequent cells, such as $CD4^+$ T helper cells, $CD8^+$ cytotoxic T cells, monocytes, and B cells

Cell separation directly from whole blood

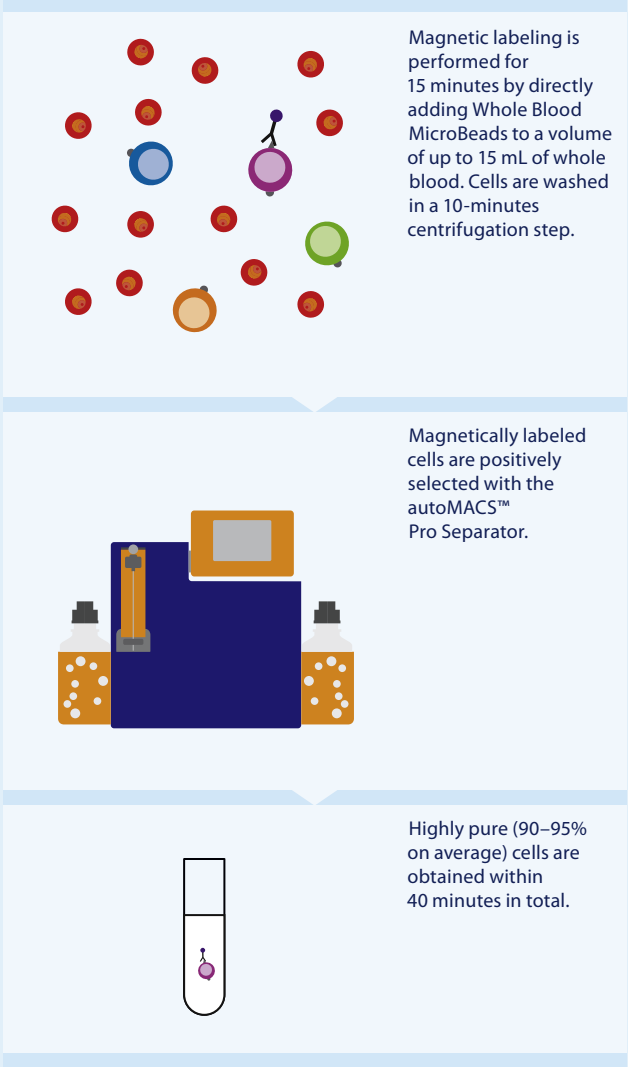
- Cell separation from up to 15 mL of whole blood, without pre-separation
- For separation of monocytes, $CD4^+$ T helper cells, $CD8^+$ cytotoxic T cells, and cells expressing one of the following markers: CD3, CD15, CD19, CD45, and CD56

Automated sample processing—versatile, fast, gentle, safe

- Variable sample volumes from 0.2 mL to 50 mL
- Sorting of up to 2×10^8 magnetically labeled cells from up to 4×10^9 total cells
- Separation of more than 10 million cells per second
- Cooling option to sustain cell viability
- Automated processing minimizes hands-on time

Compact benchtop design

- Fits in laminar flow hood or safety cabinet
- Adjustable touchscreen



Cell separation directly from whole blood by using Whole Blood MicroBeads and the autoMACS™ Pro Separator.

autoMACS™ Pro Separator

Multiple samples, reliable results

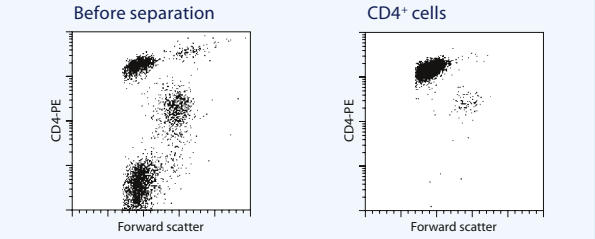
The autoMACS™ Pro Separator combines the ease and high quality of automated immunomagnetic cell sorting by MACS® Technology with efficient processing of multiple samples. The instrument is compatible with direct and indirect MACS Cell Separation Reagents and can be used to isolate virtually any cell type from any species.

The standardized procedure minimizes variability. Some examples to demonstrate the range of applications: for frequent and rare cells, for mouse and human, for positive selection and untouched cell isolation, as well as isolation of cells directly from whole blood.

1. Human CD4⁺ cells

Separation of CD4⁺ cells from human PBMCs using CD4 MicroBeads. Cells were stained with CD4-PE.

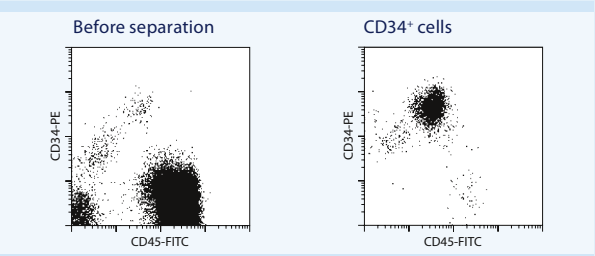
Program: Possel Purity: > 98%
CD4 MicroBeads (# 130-045-101)
CD4-PE (# 130-091-231)



2. Human CD34⁺ stem cells

Separation of CD34⁺ stem cells from human PBMCs using the CD34 MicroBead Kit. Cells were stained with CD34-PE and CD45-FITC.

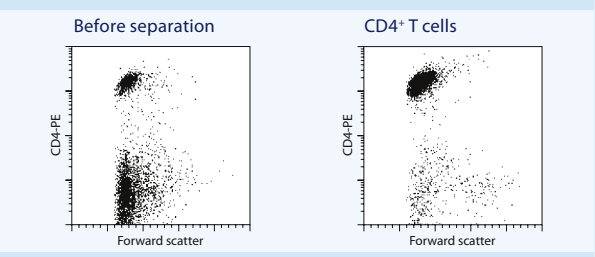
Program: Posseld2 Purity: > 91%
CD34 MicroBead Kit (# 130-046-702)
CD34-PE (# 130-081-002)
CD45-FITC (# 130-080-202)



3. Untouched isolation of mouse CD4⁺ cells

Isolation of untouched CD4⁺ T cells from a mouse spleen cell suspension using the CD4⁺ T Cell Isolation Kit. Cells were stained with CD4-PE.

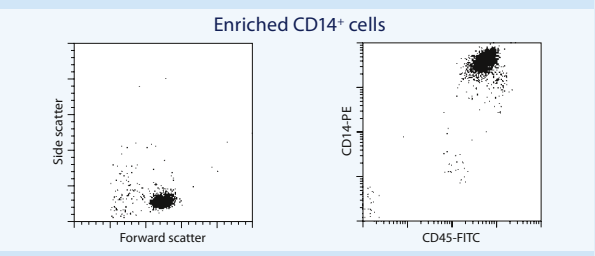
Program: Deplete Purity: > 90%
CD4 T Cell Isolation Kit (# 130-090-860)
CD4-PE (# 130-091-607)

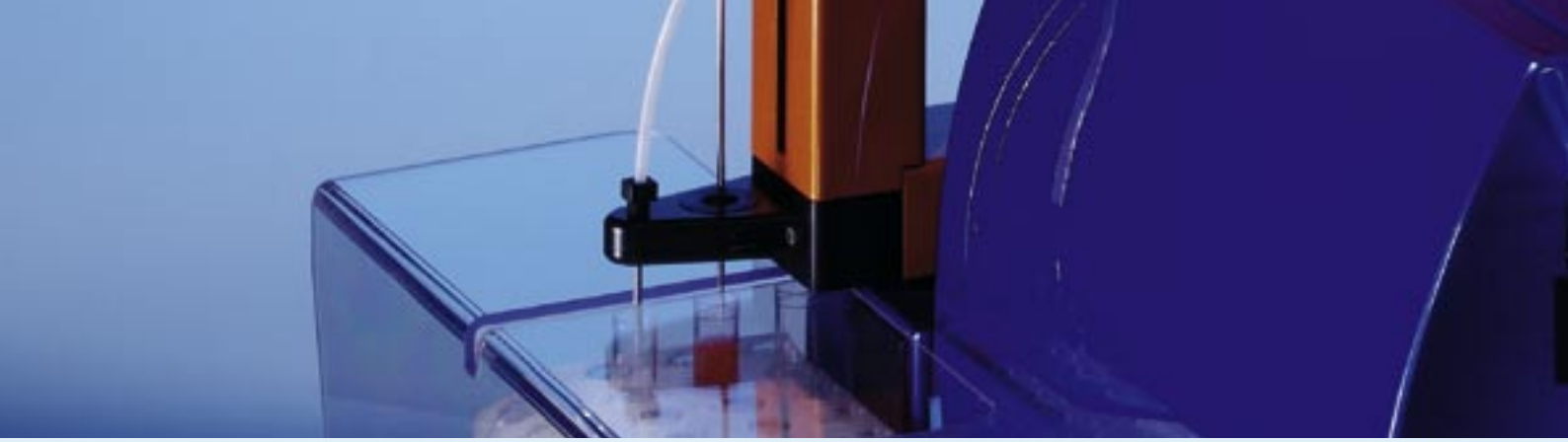


4. Human CD14⁺ cells from whole blood

Separation of CD14⁺ cells from human whole blood using Whole Blood CD14 MicroBeads. Cells were stained with CD14-PE and CD45-FITC.

Program: Posseld2 Purity: > 98%
Whole Blood CD14 MicroBeads (# 130-090-879)
CD14-PE (# 130-080-701)
CD45-FITC (#130-080-201)





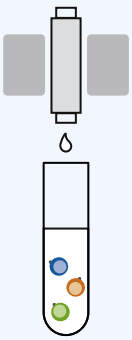
autoMACS™ Pro Cell Separation
—based on renowned MACS® Technology

MACS® Technology
- Gentle isolation of viable, functionally active cells
- Excellent purity and recovery
- Thorough rinsing procedure
- Flexible cell sorting strategies: positive selection, depletion, or sequential sorting

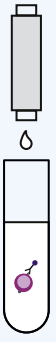
MACS MicroBeads
- Small (50 nm) superparamagnetic particles
- Coupled to highly specific antibodies
- Short incubation times
- Non-toxic and biodegradable
- No bead detachment required: both unlabeled and labeled cells can go straight to flow cytometric analysis, cell culture, or other downstream applications.

MACS® Technology

Magnetic labeling
Cells are magnetically labeled with MACS® MicroBeads.

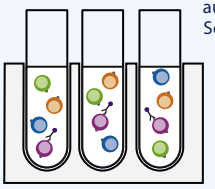


Magnetic separation
Cells labeled with MicroBeads are retained on the autoMACS™ Column in the magnetic field of the autoMACS Pro Separator.
The unlabeled cells are automatically eluted as the negative fraction.

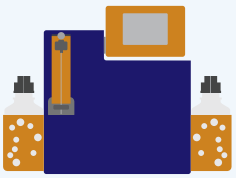


Elution of the highly enriched labeled cell fraction
The instrument performs a washing step and elutes the retained cells as the highly enriched, positively selected cell fraction. Optionally, the cells can be further enriched over a second column.
The autoMACS Pro Separator proceeds to the next sample.

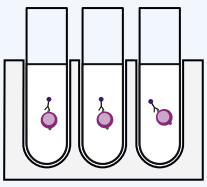
Automated cell separation



Automated sample uptake
Up to six samples containing magnetically labeled cells are placed in the tube rack of the autoMACS Pro Separator.



Cell separation
Samples are automatically processed using positive selection or depletion programs.



Automatic elution
Highly enriched cell fractions are obtained that are ready to use for downstream applications.

autoMACS™ Pro Starting Kit

Order no.: 130-092-545

Components
autoMACS™ Pro Separator
MACS® MiniSampler
1 × MACS® Cooling Tube Rack, Chill 5, for 5-mL tubes
1 × MACS® Cooling Tube Rack, Chill 15, for 15-mL tubes
1 × MACS® Cooling Tube Rack, Chill 50, for 50-mL tubes
5 × 2 autoMACS™ Columns
autoMACS™ Pro Buffer Combination
One-year warranty

Technical specifications

Programs	10 pre-set
Protocol	single- and double-column enrichment, positive selection, depletion, and untouched isolation
Column capacity	4×10^9 cells / sample 2×10^8 magnetically labeled cells / sample
Sample volume (input)	0.2–50 mL
Sample volume (output)	0.5–52 mL
Footprint *	605 mm × 353 mm (w × d)
Footprint with MACS® MiniSampler *	605 mm × 455 mm (w × d)
Height	392–460 mm (adjustable touchscreen)
Weight	25 kg
Input voltage	100–240 VAC, 50–60 Hz
Power consumption	200 VA
Color	blue / orange

The instrument is UL-listed and CE-marked.

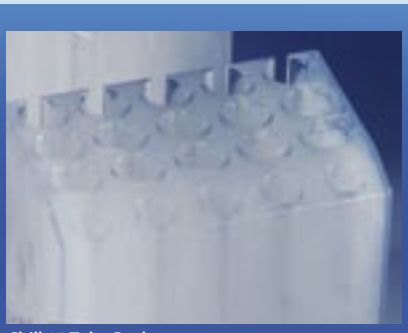
* Depending on the type of power plug chosen, the depth increases by 27 mm or 62 mm.

Accessories and consumables

Product	Components	Order no.
autoMACS™ Columns	5 × 2 cell separation columns	130-021-101
autoMACS™ Running Buffer	6 × 1.5 L ready-to-use buffer	130-091-221
autoMACS™ Pro Washing Solution	6 × 1.5 L ready-to-use solution	130-092-987
MACS® Cell Separation Reagents	More than 200 MACS Cell Separation Reagents are available	See website for more information

MACS® Cooling Tube Rack	Slots	Max. number of samples	Max. sample volume per tube	Max. number of cells per tube	Order no.
Chill 5	24 × 5 mL	6 (5-mL tubes)	2.5 mL	5×10^8	130-092-951
Chill 15	15 × 15 mL 5 × 5 mL	5 (15-mL tubes)	12.5 mL	2.5×10^9	130-092-952
Chill 50	6 × 50 mL 3 × 15 mL 3 × 5 mL	3 (50-mL tubes)	50 mL	4×10^9	130-092-953

Chill 50 Tube Rack



Chill 15 Tube Rack

Chill 5 Tube Rack

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