



Miltenyi Biotec

MACSxpress[®] Technology

Untouched cell isolation directly from blood products



MACSxpress Isolation Technology

- ▶ Fast, untouched cell isolation in 25 min
- ▶ No density-gradient centrifugation
- ▶ Flexible sample volumes from 2–30 mL



Miltenyi Biotec
MACSprep[®]
Cell Isolation
human - lymphocytes
FOR RESEARCH
Store at 2-8°C

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MACSxpress Technology

The technology at a glance

With the new MACSxpress Technology, unlabeled human leukocyte subsets can be isolated from sample volumes of up to 30 mL in a single tube. For whole blood, buffy coat, or leukocyte reduction system chamber (LRSC), MACSxpress Technology provides tailored cell isolation kits for various immune cell types. Excellent purities of up to 97% and recoveries of up to 80% can be achieved without the need for erythrocyte lysis.

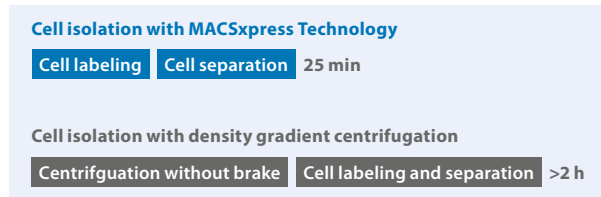


Figure 1: MACSxpress Cell Isolation versus density gradient centrifugation. A leukocyte subset isolation with MACSxpress takes less time than running a density gradient centrifugation.

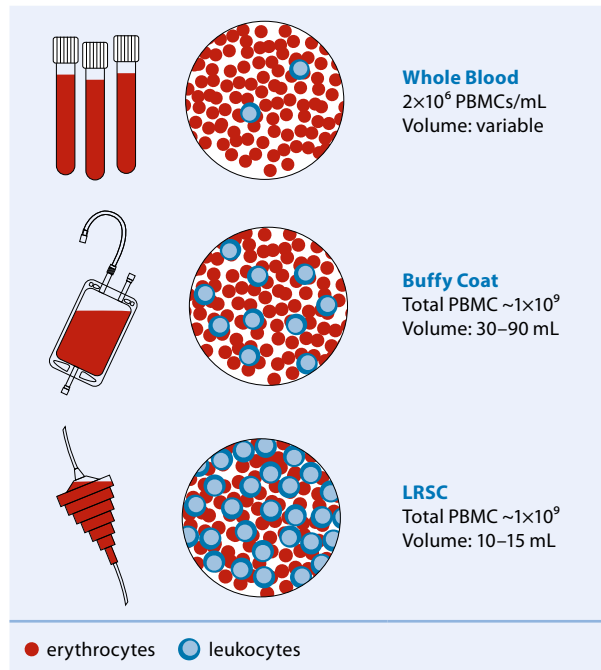


Figure 2: Starting materials for MACSxpress Isolation Kits.

How it works

MACSxpress enables isolation of untouched immune cells directly from blood and blood products without density gradient centrifugation. It is based on micro-sized MACSxpress Beads which remove non-target cells by immunomagnetic depletion using the MACSxpress Separator, a powerful permanent magnet. Simultaneously, erythrocytes are sedimented at the tube bottom yielding untouched target cells of high purity.

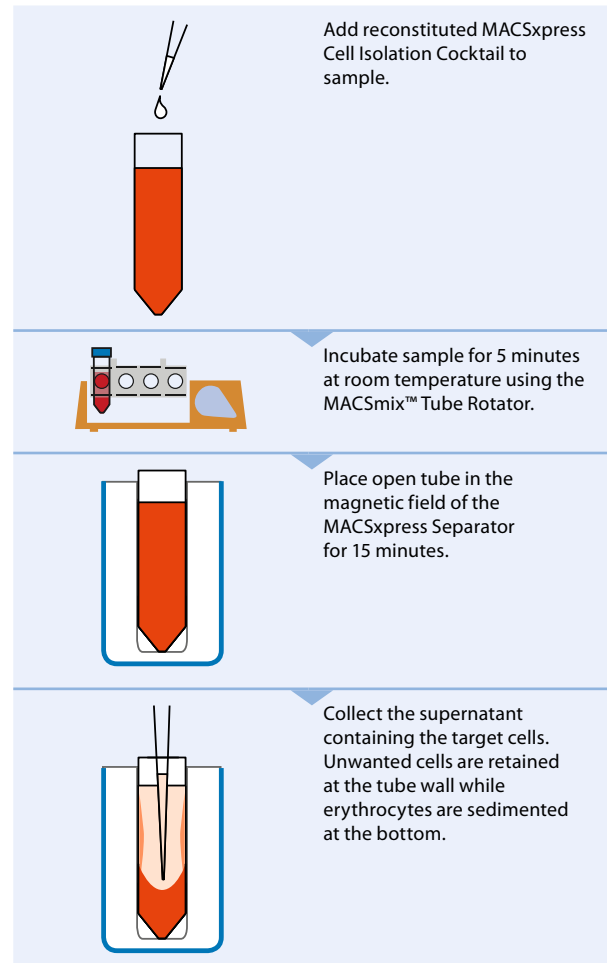
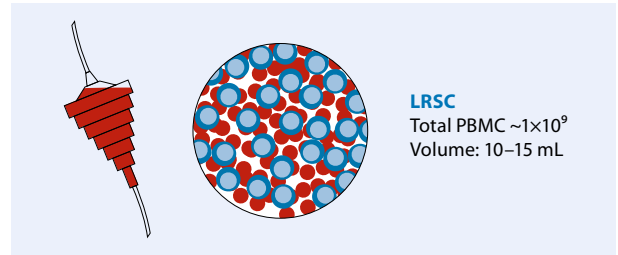
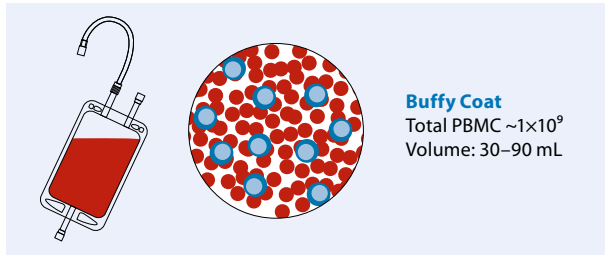


Figure 3: Principle of MACSxpress Technology. Isolation of cells directly from blood and blood products in only 25 min.

Untouched isolation directly from buffy coat, LRSC, or whole blood



MACSxpress Buffy Coat Isolation Kits

With the MACSxpress Buffy Coat Isolation Kits, you can isolate immune cells from a buffy coat. An entire buffy coat, the waste product of a blood donation, is split over three tubes and can be processed simultaneously in only 25 min. Untouched target cells are immediately available for downstream processing. With the MACSxpress Buffy Coat Starting Kit, including one MACSxpress Buffy Coat Kit of choice, a MACSmix Tube Rotator, and three MACSxpress Separators, isolating large amounts of cells from a buffy coat is easy and fast.

MACSxpress LRSC Isolation Kits

LRSCs, also known as buffy cones, are used in routine plateletpheresis procedure for depletion of unwanted leukocytes. As LRSCs contain high concentrations of leukocytes, they are an ideal starting material for MACSxpress LRSC Isolation Kits. An entire LRSC sample can be processed over two tubes simultaneously, in as little time as 25 min. The MACSxpress LRSC Starting Kit consists of one MACSxpress LRSC Isolation Kit of choice, a MACSmix Tube Rotator, and two MACSxpress Separators for convenient isolation of untouched immune cells from LRSC.

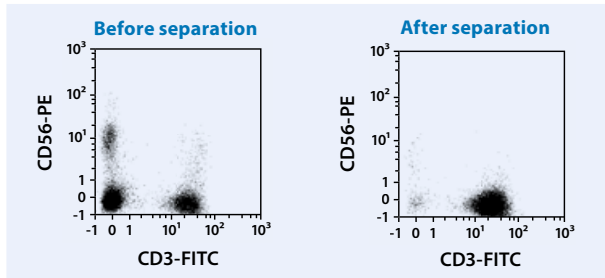


Figure 4: Pan T cells were isolated from a buffy coat sample using the MACSxpress Buffy Coat Pan T Cell Isolation Kit, a MACSmix Tube Rotator, and MACSxpress Separator.

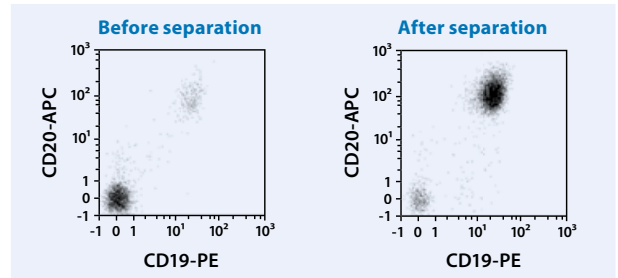
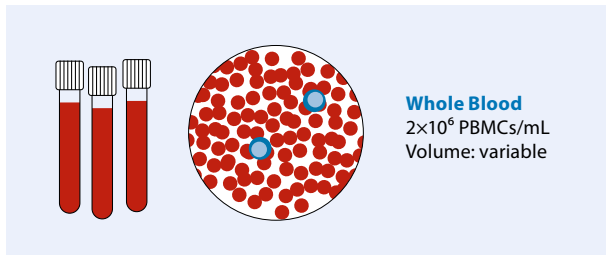


Figure 5: Pan B cells were isolated from an LRSC sample using the MACSxpress LRSC Pan B Cell Isolation Kit, a MACSmix Tube Rotator, and MACSxpress Separators.

Product	Order no.
MACSxpress Buffy Coat Starting Kit	130-120-186
MACSxpress Buffy Coat Pan B Cell Isolation Kit, human	130-120-002
MACSxpress Buffy Coat Pan T Cell Isolation Kit, human	130-120-001
MACSxpress Buffy Coat CD4 T Cell Isolation Kit, human	130-120-003

Product	Order no.
MACSxpress LRSC Starting Kit	130-120-192
MACSxpress LRSC Pan B Cell Isolation Kit, human	130-119-998
MACSxpress LRSC Pan T Cell Isolation Kit, human	130-119-997
MACSxpress LRSC CD4 T Cell Isolation Kit, human	130-120-000



MACSxpress Whole Blood Isolation Kits

For numerous applications, fresh whole blood is the starting material of choice. With MACSxpress Whole Blood Isolation Kits, target cells can be isolated in an untouched manner in just 25 min. Together with the MACSxpress Separator magnet, immune cells can be processed from sample volumes ranging from 2 mL to 30 mL. Using the MACSxpress Whole Blood Starting Kit, containing one MACSxpress Whole Blood Isolation Kit of choice, a MACSmix Tube Rotator, and a MACSxpress Separator, you can start your cell isolation right away.

Product	Order no.
MACSxpress Whole Blood Starting Kit	130-101-319
MACSxpress B Cell Isolation Kit, human	130-098-190
MACSxpress B-CLL Cell Isolation Kit, human	130-104-445
MACSxpress Pan B Cell Isolation Kit, human	130-104-444
MACSxpress Naive B Cell Isolation Kit, human	130-098-186
MACSxpress CD4 T Cell Isolation Kit, human	130-098-195
MACSxpress CD4 Memory T Cell Isolation Kit, human	130-106-770
MACSxpress CD8 T Cell Isolation Kit, human	130-098-194
MACSxpress Pan T Cell Isolation Kit, human	130-098-193
MACSxpress Treg Isolation Kit, human	130-109-557
MACSxpress Eosinophil Isolation Kit, human	130-104-446
MACSxpress Erythrocyte Depletion Kit, human	130-098-196
MACSxpress Neutrophil Isolation Kit, human	130-104-434
MACSxpress NK Cell Isolation Kit, human	130-098-185

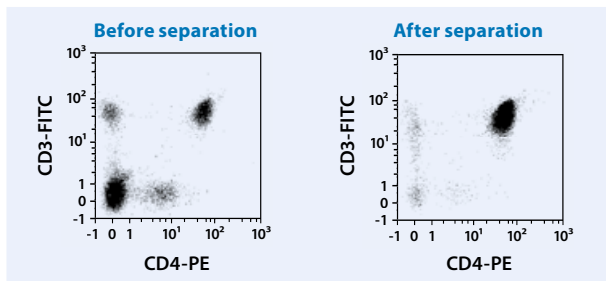


Figure 6: CD4⁺ T cells were isolated from a whole blood sample using the MACSxpress Whole Blood CD4 T Cell Isolation Kit, a MACSmix Tube Rotator, and a MACSxpress Separator.

Hardware for seamless MACSxpress Cell Isolation

MACSxpress Separator

The MACSxpress Separator contains a powerful permanent magnet that induces a strong magnetic field within the tubes. The magnetically labeled cells will adhere to the wall of the tube while the aggregated erythrocytes are sedimented at the bottom. While the tube is still inside the MACSxpress Separator, the supernatant, containing the non-labeled target cells, can be pipetted into a fresh tube, ready for any downstream application. The MACSxpress Separator contains an integrated LED for more comfortable sample pipetting. It is compatible with 5 mL, 15 mL, and 50 mL tubes ensuring highest flexibility.


MACSmix Tube Rotator

The MACSmix Tube Rotator is a versatile instrument for gentle cell mixing. It operates with rechargeable batteries or mains operation and is suitable for a temperature range of 2–42 °C. The MACSmix Tube Rotator provides effective overhead sample mixing in various tube sizes ranging from 0.5 mL to 50 mL. The device operates at three different speeds or at set intervals ensuring optimal mixing.



Product	Order no.
MACSxpress Separator	130-098-308
MACSmix Tube Rotator	130-090-753

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