Miltenyi Biotec

M Columns

Order no. 130-042-801

Contents

1. Description

This product is for research use only.

Components	10 M Columns for the isolation of magnetically labeled molecules; sterile packed.
Storage	Store columns dry and protected from light. Do not use after expiration date.

1.1 Background

The patented MACS® Column Technology is based on the use of MACS MicroBeads, MACS Columns and MACS Separators. M Columns have been developed for the gentle isolation of MicroBead-labeled molecules. As MACS MicroBeads are extremely small, superparamagnetic particles, a high-gradient magnetic field is required to retain the labeled molecules. M Columns contain an optimized matrix to generate this strong magnetic field when placed in a permanent magnet such as the MiniMACS™, OctoMACS™, or SuperMACS™ II Separator. Washing and elution steps are performed by simply rinsing the column with an appropriate buffer as described in the individual "µMACS™ MicroBeads data sheet" or as tested experimentally.

1.2 Technical specifications

- For capacity of the M Column, refer to the individual "µMACS MicroBeads data sheet".
- Columns are "flow stop" and do not run dry.
- Void volume: 80 µL.
- Recommended filling volume: 1 mL.
- Typical flow rate for PBS: 300 µL/minute.
- The columns are for single use only.

1.3 Product applications

M Columns are used for molecular biology and protein biochemistry applications such as isolation of mRNA, immunoprecipitated protein, or epitope-tagged protein in combination with µMACS MicroBeads and a MiniMACS, OctoMACS, or SuperMACS II Separator.

▲ M Columns are for molecule isolation only. Do not use M Columns for cell separation.

▲ Do not use M Columns in combination with magnetic particles other than µMACS MicroBeads. Magnetic forces in the column are very high and may damage biological material if other beads are used.

▲ M Columns are not suitable for particles larger than 30 µm. To remove clumps and to prevent aggregates in sample, resuspend material carefully and precipitate clumps by centrifugation before applying the sample on the column.

▲ Samples or buffers with high viscosity might cause reduced column flow or column clogging.

1.4 Reagent and instrument requirements

- **Equilibration Buffer for column preparation (degassed):** buffer supplemented with 1% detergent, e.g. SDS or Ecosurf™ EH-9.
- **Separation Buffer (degassed):** any buffer suitable for your magnetic separation (for details, see individual "µMACS MicroBeads data sheet"). If the separation buffer contains 1% detergent, it can also be used for column preparation.

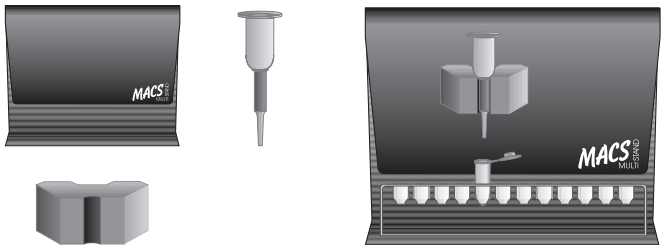
  ▲ **Note:** Use degassed buffer only! Degas buffer by applying vacuum or sonification for ten minutes, preferentially with buffer at room temperature. Excessive gas in running buffer will form bubbles in the matrix during isolation. This is particularly important, when the applied buffer has a different temperature as the M Column, e.g. when using cold buffer on a column at room temperature. Air bubble formation in the M Column may lead to clogging of the column and decrease the quality of isolation.
- µMACS MicroBeads for magnetic labeling of target molecules.
- MiniMACS, OctoMACS, or SuperMACS II Separator.

Miltenyi Biotec B.V. & Co. KG
Friedrich-Ebert-Straße 68, 51429 Bergisch Gladbach, Germany
Phone +49 2204 8306-0, Fax +49 2204 85197
macsde@miltenyi.com
www.miltenyibiotec.com

2. Preparation of the M Column

1. Insert M Column with the column wings to the front into MACS Separator according to A) or B).

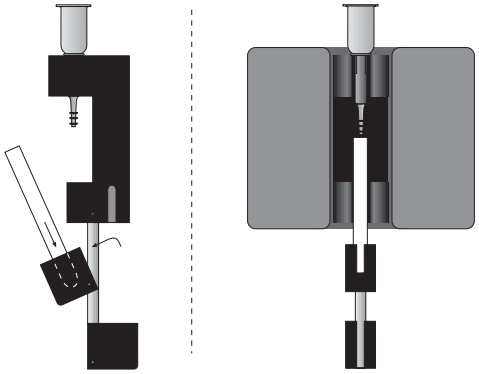
A) Use with MiniMACS™ or OctoMACS™ Separator



Attach MiniMACS™ or OctoMACS™ Separator to the MultiStand and place M Column in the separator. Place a collection tube under the M Column.

▲ **Note:** Check that the ejection blocks in the gap of the magnet are attached before placing the MACS Column into the magnetic field of the MiniMACS or OctoMACS Separator.

B) Use with SuperMACS™ II Separator



Insert Adapter for MS, LS and LD Columns in the magnetic field of SuperMACS™ II Separator (for details, see "SuperMACS II data sheets"). Place the M Column in the Column Adapter and the 13 mL collection tube in the lower tube holder.

2. Apply 250 µL of degassed Equilibration Buffer on top of the column and let the solution run through.
3. If Separation Buffer is different from Equilibration Buffer, apply 100 µL of degassed Separation Buffer and let the solution run through. The M Column is now ready for magnetic separation. Perform the magnetic separation as indicated on the individual µMACS MicroBeads data sheets.

Refer to **www.miltenyibiotec.com** for all data sheets and protocols. Miltenyi Biotec provides technical support worldwide. Visit www.miltenyibiotec.com for local Miltenyi Biotec Technical Support contact information.

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